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Table of Contents on Page 2

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Table of Contents

Vol. 28 August 1953 No. 8

ARTICLES

Some Observations on Pediatric Education
—*Grover F. Powers* 11

Medical Education in France
—*Theophile A. Alajouanine* 20

Counseling Activities in a Medical School Setting
—*Robert I. Watson* 23

The Intern Shortage, the Foreign Graduate and the Law
—*Allyn B. Ley* 31

Pathology—Present and Future
—*J. F. A. McManus* 35

The Role of the Health Center in the Education of the General Practitioner
—*Jacob H. Landes* 41

The Cancer Teaching Program in Medical Schools
—*Raymond F. Kaiser* 45

THE TEACHING CLINIC

A Pharmacology Teaching Exercise with Barbiturates
—*Avram Goldstein* 48

EDITORIALS AND COMMENTS

The Report of the Survey of Medical Education 51

The First World Conference on Medical Education 52

Corporate Giving 52

NEWS DIGEST 54

College Briefs 58

AUDIOVISUAL NEWS 67

BOOK REVIEWS 72

ABSTRACTS AND EXCERPTS 75

THE PERSONNEL EXCHANGE 78

Association Officers, Staff, Committees 4

Calendar of Meetings 8

Index to Advertisers 8

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Some Observations on Pediatric Education

GROVER F. POWERS

"CAN YOU TELL ME, Socrates, whether virtue is acquired by teaching or by practice; and if neither by teaching nor by practice, then whether it comes to man by nature, or in what other way." At the conclusion of the dialogue Socrates gives an answer: ". . . virtue comes to the virtuous by the gift of God. But we shall never know the certain truth until, before asking how virtue is given, we inquire into the actual nature of virtue."

In the Great Didactic of Comenius is this precept: "Let the main objective . . . be as follows: To seek and find a method of instruction, by which teachers may teach less, but learners may learn more."

Ralph Waldo Emerson said: "That which we are, we shall teach, not voluntarily but involuntarily."

Abraham Flexner observes that, "There are men who teach best by not teaching at all."

These quotations will be interpreted by you each in his own way; to me they penetrate into the heart of sound educational philosophy. If each of us would realize that great teaching is by great practice, and practice is the medium through which example is set, and example is the tool by which excellence may be demonstrated, and, happily, if combined with experience, learned, then we would not ignore but cease to stress heavily the concepts apprehended by such terms as full-time, part-time, private practice, didactic lectures, audiovisual aids, decentralized teaching, workshops, teaching and nonteaching hospitals, etc. We would appreciate rather, that all of us who practice medicine teach—involuntarily always, voluntarily sometimes. We set examples and somebody is always watching, somebody is always listening. Dr. Gregg calls attention to an appropriate comment in a Portuguese language textbook: "Language is of three kinds: first spoken, second written and third gesticulated."

There can be no fundamental schism between practitioner and professor; both profess medicine, set examples thereby and teach. Of all groups in medicine have not pediatricians the most important students? These include babies, children, parents, nurses, interns, residents, social workers, school teachers and others concerned with child health.

In the academic teaching area I know of no department of pediatrics which does or could or desires to function without the support and participation of those who serve with little or no financial remuneration part time. The extent and quality of their teaching, as with everyone's,

Dr. Powers is emeritus professor of pediatrics at Yale University. This article is adapted from a speech delivered to the American Academy of Pediatrics, from which Dr. Powers received the 1953 John Howland Award for "distinguished service in the field of pediatrics."

is dependent on the teacher and not the system under which he functions. No administrative officer minimizes the unique and specialized contribution which the teacher who spends much of his time in private practice can bring to the eager mind of youth; and the practitioner, in turn, receives as his chief reward stimuli and inspiration from his students. But there must be dependability in meeting assignments and responsibilities and no casual repetition of clinical platitudes which fail to conceal devastating ignorance of advances in knowledge in medicine.

From the perspective of over 40 years, I realize now that my greatest teacher in medical school was William Stewart Halsted, professor of surgery in the Johns Hopkins University. At the time, I thought of him not as our most popular teacher but rather as our most ineffective professor. He could not verbalize well in a lecture; he was not authoritative; he probably did not use lantern slides skillfully; at his clinics, even if I sat in the front row, I could hear only a portion of his comment although I could always observe his gentle, respectful manner with patients, students and staff; on ward rounds I could hear even less and saw but little; at operative clinics, one sensed infinite care and striving for perfection but I neither heard nor saw anything which then seemed important. Or did I! Somehow, in some way, over the course of the years I have come to realize in a personal way that Halsted was a truly great doctor and teacher; a humanitarian in dealing with his patients; a scientist in his quest for truth; a scholar in the depth and scope of his learning; a physician I would fain emulate.

"What we are, we shall teach . . . men who teach best by not teaching at all." "Halsted men" staffed many of the surgical clinics of this country; and is there a better measure of the greatness of a teacher? Dr. Alan Gregg has well said: "What Welch and his colleagues (Halsted, Osler, Kelly) did and believed and wrote is not as important now, nor anywhere near as important, as the heritage of excellence their contacts with each other have left us."

Full-Time Teaching

Because I feel so deeply the fundamental importance of the power and effectiveness of teaching by the example of fine practice, I am concerned at what is happening in many clinical departments in medical schools. I was an intern when full-time was born in Baltimore; that educational infant was so christened not primarily because more skill was thought to be needed in medical education, but because there was demand for greater concentration of time, effort and energy on clinical services and in laboratories. And the chief concern for the success of the new program was that full-time doctors might lose their clinical touch since they were to have little private practice and were to devote the time and effort formerly so expended to investigative work. For the most part, however, full-time men have not deteriorated clinically but, rather, have advanced, and this usually at the expense of time and effort which were to have been spent in the laboratory.

In recent years, however, a menace to the clinical teacher has come from another quarter: administrative responsibilities, fund raising and public service; these seriously threaten excellence in education in pediatrics and in all or most clinical fields. This

menace has been well described by Dr. Harry Gordon in a letter addressed to the chairman (Dr. Hill) of this academy committee. Dr. Gordon says:

"A serious threat to the efficacy of the professor has come from demands on him for more obvious services to the community, as though the more traditional role of a university professor does not constitute such service. The reasons for these demands are clear: the last war with its awful recognition that 'the bell tolls' for all of us, the extent of the World War II mobilization for direct service to the government either on a civilian or military basis, the continuing partial mobilization of the cold war, the extensive governmental support of research and health programs, the great extension of postgraduate medical education stimulated originally by the need of refresher courses for doctors discharged from the military service, the improvement of air transport, have all led to the assumption of responsibilities outside the university on an apparently unending basis by professors.

"The full-time professor is forced to become less than a part-time visitor in his own department, less because it is assumed that he is discharging responsibilities which in fact he is not, and this would become obvious quickly were it not for the loyalty of colleagues. His junior attending and resident do not bother him about individual patients, because he is too busy with administrative emergencies, and his rounds are held irregularly because national committee meetings take precedence. In truth, the man who is supposed to teach direct health services mostly by the precept of giving them has become a lecturer whose words carry their greatest weight at points far removed from the site which should occupy his major energies, namely, his own department.

"The very goodness of the demands by the community markedly increases their centrifugal power and also makes it difficult to avoid meeting them without having it appear that one is for sin. Rev. Harry Emerson Fosdick has written that one of the most difficult decisions in life is to choose between two good goals; perhaps your committee could help clinical teachers to the choice of work in their departments as their primary responsibility."

Dr. Gordon wrote primarily of this threat of engrossing administrative and public service to the full-time chiefs of medical school departments, but it applies to all physicians since we are all teachers in our practice and so exemplify our science and our art. To the degree we assume other responsibilities—for which worthy openings are continually being presented—the integrity and the quality of our medical teaching is being jeopardized; of this we must be on guard.

Educational Conferences

Since January 1952, the Committee on Education has sponsored meetings of academic teachers and academy state chairmen at teaching hospitals in nine of the ten areas into which the United States and Canada are divided; I had the pleasure and honor of attending eight of these conferences. The most important achievement of the meetings, it seems to me, is the stimulation and inspiration which comes to earnest people when they come together in a small group and discuss their problems, their failures, their accomplishments, their plans, their ideals.

In most of the conferences, dis-

cussion was developed in the framework of the actual educational program of the host department, presented in many instances by students and junior staff members whose interest and participation were most rewarding.

There are many interesting facets of these conferences relating to *what* aspects of pediatrics should be taught (content, i.e., fluid balance, growth and development, infectious diseases, prematurity, etc.); *how* the teaching should be done (methodology, including research as a pedagogical instrument);* *where,* in any given environment, the teaching program should be located (inpatient, outpatient, affiliated institutions, child health conferences, nursery schools, etc.); *when* in the medical course students, graduate and undergraduate, should be exposed to various aspects of the subjects (curriculum); and *who* should teach and be taught and for how long (faculty).

At this time I shall focus attention upon three areas of discussion, making the introductory observation that most departments have as much curricular time allocated to them as they have staff and programs to utilize effectively. This situation is due in all probability to the impact on medical school administration of the academy study of 1946. There are still departments, however, in which expansion is desired in allocated hours as well as in facilities and resources.

Internships

Pediatrics and the rotating internship is the first subject I wish to stress. I have always and still do advocate the straight internship of high quality as the most vital and rewarding educational experience a young graduate in medicine can have when he takes it the year immediately after receiving his degree. There is then an open mind and few fixed habits of practice; instead, there is flexibility and vivid enthusiasm and interest runs high; the emphasis is not on content so much as on quality; not on "qualifications for the practice of any art or trade but a training of the mind, a formation of habits of study, of insight and the easy handling of ideas" (Sir Clifford Allbutt) and of people. These qualities take hold readily and firmly in this the most formative and plastic year of professional life. Physicians are developed—especially when exposed to investigatively oriented teaching—who are self-propelling learners and questors of excellence throughout their professional careers and who can discern what is important from what is unimportant; no mean achievement of an education.

No one expects to learn all the important facts in one subject, and much less can one become even oriented in all the several aspects of clinical medicine covered by a rotating internship; information is important but it is remarkable, is it not, how quickly much of it becomes out-of-date? But one can acquire in a year of organized, focused experience under inspiring guidance in several aspects of one discipline, high standards, sharp critiques and the ability to accurately and intelligently appraise, relate and apply data in the humane practice of medicine—probably the most tender and sensitive area of human relationships; *these* verities are never out-of-date. Physicians so trained and conditioned are prepared to meet

*I know of nothing which brings student and teacher so close together mentally and spiritually as joint endeavor directed toward the solution of a problem.

the exigencies of future responsibilities in much wider fields of medicine; I have noted this too many times to have any doubts of its essential validity, e.g., effective battalion surgeons in World War II and in Korea after straight pediatric training.

Many, if not most physician-educators do not agree with me. Even if they did, there are now difficulties and impediments in respect to personnel and facilities insuperable for consummation of the ideal. The only current plan for much of the graduate training in medicine is the partial solution inherent in the rotating internship: one, and less commonly, two years in duration. At its best, pediatrically speaking, this is minimal and wholly inadequate.

The Academy of Pediatrics, in my opinion, should assume leadership in bringing about reformation in this matter so far, certainly, as pediatrics is concerned, in cooperation with the American Medical Association, the American Academy of General Practice, the Association of American Medical Colleges and any other groups willing to assist. (Action has begun in Canada, I am happy to report.)

Why?

In this country there are some 40 million potential and very important pediatric clients for physicians; namely, the number of persons under 15 years of age; in Canada there are some 3 million such clients. In the United States, according to the academy survey, 75 per cent of these children under private medical care will receive it from the physicians in general practice who will spend 29 per cent of their time in such work; only 11 per cent of the patients were cared for by pediatricians.

How is the general practitioner trained at the graduate level to meet this responsibility? By such pediatrics as he gets for the most part in a one-year rotating internship common in all states and required for licensure in 13, of which only two specify in any detail the required content of the internship. In one of these two states, the required amount of pediatrics until recently was two weeks; it is now four.

The academy survey states that "about half of the general practitioners had received less than one month of pediatric training during their hospital internship or had no pediatric service at all." Because of this slim fare, the general practitioner-to-be not only fails to receive child health orientation as such, but he misses the valuable teaching of the concepts of comprehensive medicine which pediatrics inherently is best equipped of all clinical disciplines to render.

The Council on Medical Education and Hospitals of the A.M.A. does "not have available in any organized form, data regarding pediatric services in hospitals approved by the council" (personal communication), but each of us knows many hospitals in which the one-year rotating internship offers little or no pediatrics. The Academy of General Practice recommends "that physicians planning to enter general practice devote a second year to in-residency training in general surgery, medicine, obstetrics and pediatrics . . . and it is expected that family doctors will continue their education after they are in practice and will keep up with advances in all fields in which they practice" (personal communication). But can any course take the place of actual supervised clinical work with children?

The question being discussed is not whether the ideal is that all children

be under the care of pediatricians or of general practitioners; the very practical point I am making is that—call him what you will—every physician who takes responsibility for child care should have supervised training in pediatrics.* I think we should set as a minimum goal six months of pediatrics in two-year rotating internships. If there are to be officially recognized one-year rotating internships, three months of the time should be devoted to pediatrics wherever facilities make this assignment possible. In accepting this as good, let us not be deceived into thinking it is best. There is no short cut to excellence; the fact is, as Dr. Gregg wisely says, "that a good medical education takes not four years but eight or ten, whether it be for practice, for teaching or research." It seems to me that if we are not to lengthen the ideal graduate training of physicians, time must be salvaged by closer integration of college and professional school work, and both might become thereby more meaningful. Some time might be salvaged for pediatrics in rotating internships from that spent in teaching operative techniques.

Psychiatric Training

The next aspect of pediatric education to which I turn affects not only our specialty but all areas of medical teaching. I refer to psychology and to psychosomatic and sociological medicine. These areas educationally overlap and integrate to a degree which makes discussion of them as a unit advisable.

Child psychiatry, as it deals with psychopathological disorders and their treatment, does not lie essentially in the pediatric sphere. The greatest needs here are for more qualified personnel and for adequate study homes for the residential care of psychopathic patients; there is a great dearth of these facilities and they are desperately needed. Child psychiatry in its broad aspects has a large stake in the training of physicians in comprehensive or integrated pediatrics which is concerned with the health, growth and development as well as the sickness of the child, with the prevention, if possible, of behavior disorders as well as the prevention of infectious diseases and nutritional ailments. Here, the pediatrician, psychologist and psychiatrist must find an effective modus operandi for work together; I do not admit that there is not already a friendly desire to do so—indeed, quite the reverse. In this general area of activity there are courses, study centers, research councils, rooming-in projects, and conferences of many varieties. And in the psychosocial or sociological domain, there are preceptorships, family and home practice, general practice clinics.

The aim of the "course"—many of which are given in the preclinical years—is well-described by Dr. Alfred Washburn. He says that "Medicine as Human Biology" which is given by his group at the University of Colorado, is "to stimulate the student to give thought to the nature of his life-long study—to help him to an awareness of what he needs to learn to become the wise and beloved physician—and to give him this beginning insight into the nature of his educational task as he starts his study of the sciences basic to medicine.

*By "pediatrics" is meant here organized and supervised child care: it may be classified as preventive, medical or surgical pediatrics, and it may be located in a newborn nursery, nursery school, emergency room, outpatient clinic, well-baby conference, convalescent home, parent or affiliated institution.

"The . . . concept of the growth, the development and the endless adaptations to environment of a person from conception to death serves as a unifying integrating appreciation of the responsibilities of the physician; it pulls together the basic sciences and clinical disciplines into a unitary field of knowledge which is medicine."

Child psychiatrists and psychologists have made valuable and far-reaching contributions to knowledge of children's mental development and emotional behavior. What they have to offer pediatricians is summarized topically by the Committee on Child Psychiatry of the Group for the Advancement of Psychiatry. The areas of special contributions are those relating to:

1. Personality growth and development;

2. Interviewing techniques;

3. Child - parent - physician relationships.

4. Psychological reactions of children and parents to physical illness (acute and chronic) and to convalescence; and,

5. Psychopathology and symptom formation.

"Ideally," in the opinion of the committee, "in the education of emerging pediatricians, the content regarding the emotional life of the child, interpersonal relationships, etc. outlined above, should be taught by a well-trained pediatrician in collaboration with a child psychiatrist familiar with the pediatric setting and integrally a part of it. However, in most instances the programs cannot be carried out in this way and the instruction—both individual and staff—will probably become the task of the child psychiatrist." I do not think this will happen for an indefinite period. Each time a new skill or technique comes into medicine there is fractionating for a time and then integration; dealing with the emotional life of the child is not much more specialized at this moment than is pediatric cardiology, for example. In at least a dozen clinics, comprehensively minded doctors—pediatricians and child psychiatrists—in collaboration with psychologists and social workers are laboring in all earnestness to work out ways—for surely there is more than one way—of orienting and training students and staff in this least well-charted area of child health —the psyche.

In order that the roles of home and family and socio-economic forces in medical practice may be recognized and implemented in the training of undergraduate and graduate students of medicine, several programs are being developed. The proponents of these projects also seek to reduce the fractionating of student-patient relationships—a deplorable but inevitable occurrence in the current practice of rotating students and interns through various clinical services, and even various sectors of a single service. In several clinics, home as well as hospital experience for students is operating in the form of home calls on newborns and sick patients; ir. the assignment on a voluntary basis of preclinical students to families as health visitors or advisors on a four-year basis; in the establishment of general practice clinics.

In some schools, there is a very active preceptorship program in operation, which may provide poor or good educational experience depending upon the caliber of participants. Certainly some improvement in the educational activities of teaching centers to give trainees at every level

of experience greater continuity in doctor-patient contact is needed. One small facet in which there is progress is the participation of pediatricians in prenatal clinics, making possible and natural subsequent contact with the family at least through the newborn period.

In one medical school all pediatrics is concentrated in a three-month period (in the fourth year), devoted almost exclusively to this one subject. Some small measure of continuity in student-patient contact is thus made possible in simultaneous outpatient and inpatient experience. It is highly desirable that longitudinal student-patient contact as well as home-family care be extensively studied and developed.

Departmental Collaboration

Most of the programs dealing with psychological growth and emotional development and those concerned with family and home practice are being carried forward in close association and collaboration with several departments—notably public health, preventive medicine, psychiatry and social service. I would like to offer a word of gentle caution and make a suggestion in regard to this development.

Out of the study and care of physically sick children grew interests and achievements in preventive pediatrics in its various aspects. It should never be forgotten that whatever else is important in clinical medicine, the most fundamental of all our activities deals with adequate, accurate histories and with careful skillful physical examination coupled with a knowledge of pathology; we start from there no matter where we end. Nothing a physician can do so firmly establishes rapport between himself and his clients as careful histories and skillful physical examinations.

That does not, in any respect whatsoever, imply that psychological and sociological factors are not truly and essentially vital aspects of sickness and health care. We do not debate what is more or what is less important, but simply emphasize what always is basic and comes first in the practice of a doctor of medicine. How to orient and teach in the less clearly defined areas and when to begin the special programs are *sub judice;* but they will come to fruition someday and in the meantime are subject to experimental study and appraisal. We must have open and receptive minds; there is no one and only approach; we must try many—understandingly, sympathetically, interestedly.

The suggestion I would make—not original—is that the skills, interest and advice of social scientists be utilized and that they be invited to join our pediatric teams. The investigators of social dynamics have much to offer in evaluating and appraising these programs now getting under way, especially since many sociologists are interested in studies of professional education in many fields. Did you ever consider, for example, the great psychological and sociological impacts of a medical center on a community? Today we are thinking in terms of pediatric education, but that is a small segment of a vast array of influences, forces, conflicts, opportunities, facts which are engendering ferment in the lives of many people, extra- and intramural, in contact with medical centers. We are just beginning to envisage some of the farflung implications of medical schools and hospitals to our society—the by-effects, one might say—of our immediate task of

training competent physicians. From this point-of-view, what is really going on, psychologically and sociologically speaking, in medical centers, and what is really the overall content of medical education? Those are indeed questions to which adequate answers are greatly to be desired and earnestly sought in skillfully designed investigations.

The poet Robert Frost says,

"We dance in a ring and suppose,
But the Secret sits in the middle and knows."

Concluding, may I make the trite but ever valid observation that the secret lies less in curricula and programs and projects, and more by far in the fine qualities of mind and heart of those students and teachers who see in medicine opportunities both for the advancement of scientific knowledge and for rendering comprehensive professional service to people respected as human beings who deserve physicians possessed of environing faith and private excellence.

Progress of Public Health

PUBLIC HEALTH IS RECOGNIZED and accepted as a function of the state. The greatest handicap of government in utilizing available knowledge often is not the lack of funds, but the lack of competent professional personnel. The whole progress of public health therefore depends to a very great degree on the progress of professional education. The whole progress of public health waxes and wanes with the quality and quantity of the medical and nursing professions. The skeleton personnel of the usual health department can never, alone, solve the problems of public health and preventive medicine. Under a free enterprise system their solution must involve the private practitioners of medicine. Any other solution is out of the question because of the numbers of trained persons required, the financial outlay that would be necessary and the diffuse and all-pervading nature of the problem.—*from the 1591 Annual Report of the Rockefeller Foundation.*

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Medical Education in France

THEOPHILE A. ALAJOUANINE

MEDICAL EDUCATION is essentially the same everywhere if the duration of study, the distribution of the program of instruction according to the year and the results obtained in the training of physicians are taken into consideration. There is, nevertheless, a difference between medical education in the United States and France. It consists essentially in the fact that in France the students must spend their mornings at the hospital from the first day of their medical studies, thus having from the beginning a clinical education parallel to their theoretical education. In the United States the medical students do not begin their clinical education until the beginning of the third year of study.

From the beginning of his studies in France, the student of medicine has his day divided into two parts. The morning is devoted to clinical education in the hospital, the afternoon to general education which, during the first two years of medicine, is concerned with the fundamental sciences: anatomy, embryology, histology, physics, biological chemistry and physiology. The teaching consists of theoretical courses and technical exercises in the laboratories. The clinical education is also composed of two parts: short lessons in anatomy and physiology applied to symptomatology, and the elementary examination of patients.

The first year of medicine is essentially a year of semiological apprenticeship when the student must learn to recognize, on the patient himself, the physical or functional signs which betray a disorder of some organ. It is thus that the instructors or clinic chiefs show the student how a patient is questioned, how an observation is conducted, what weight must be given to the findings in order to conclude that there is a certain functional trouble.

Finally, the student will learn to evaluate the physical signs revealed by a clinical exploration and by the current methods of complementary exploration at the bedside; in short, how to conduct a systematic examination. The interrogation and the history of the patient teach him to take into consideration the mode of evolution of the disease, the importance of the first symptom to appear, the method of apparition and the grouping of the other symptoms, the chronicity of the disease (acute, subacute or chronic) and the clues drawn from other disturbances or hereditary antecedents.

This sort of elementary clinical education takes place for the first-year student in services specialized for

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Dr. Alajouanine is professor of clinical neurology at the University of Paris, France. This article is adapted from an address made at the University of Illinois College of Medicine, June 1952.

this teaching; that is, by a group of clinical instructors, chiefs of clinics and assistant professors under the direction of a professor of propaedeutics. Of the 150 hospital services in Paris, 75 receive students in the first and second years; half of the year in a medical service and the other half in a surgical service. Each ward of patients receives from 10 to 15 students which is, of course, too many.

This method of medical education might be objectionable on the basis that it seems more logical to have the clinical education preceded by theoretical study. A student called to examine a patient suffering from a cardiac dysfunction or a perturbation of nervous activity, for example, should be better prepared to understand these manifestations if he already has a precise knowledge of the normal functions and of the physiological activities whose pathological transformation he is about to observe.

This objection would be of value if the first- or second-year student had no general notion of the fundamental biological sciences. But before beginning his medical studies, he has been subjected to two years of a scientific education directed toward his entry into strict medical education. He has received a general physical, chemical and biological training which, although general and not yet specialized for the study of problems in the medical sciences, nevertheless constitutes at least a logical introduction.

The medical student who is going to frequent the hospital in services organized for preliminary instruction in his first year already knows the essential anatomical and physiological facts concerning the internal organs and consequently is able to recognize the methods of physical exploration of the organs, the signs and symptoms revealing the alteration of their functioning, and the general aspects of the evolution of disease.

Although this major criticism may be answered in this way, the advantages in this method of precocious clinical medical education must be defined.

It is agreed that medical education is essentially of a practical nature—the learning to recognize diseases in order to treat them. In reality the medical student must learn two different kinds of facts: (1) the complex mass of data constituting medical science, and (2) a technique which permits him to apply his medical science to the patient.

Clinical education is devoted to training the student to recognize in the patient the expression of a particular case pertaining to general scientific laws. It is, according to Claude Bernard, a passive experimentation realized by nature and, like all experimentation recognized and observed, it must be interpreted. Bacon, in his "Philosophy of Science," wrote "observation and experience to assemble the materials, induction and deduction to elaborate them, these are the only good intellectual machines." This principle must be extended to the results furnished by techniques of exploration which are only tools to perfect our perception of reality; results which must also be subjected to the judgment and reasoning of those who utilize them.

Clinical education, therefore, requires special experience which is the basis of interpretation of a concrete reality. This is the reason there should be no delay in putting the future physician in contact with the patient. The patient is the reality with which he always will be concerned, the concrete fact which is

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the basis of medical practice. It is more important in experimental sciences to go from the concrete to the abstract than in the reverse direction, for it is more logical and more certain to begin with the facts in order to arrive at their significance than to apply to the facts ideas or general views of which the substratum is not always firmly established. Moreover, it is certain that such an education cannot be acquired except after examination of numerous patients, after having repeated many times the functional and physical exploration, after having learned to elicit the signs, but also to interpret them, to compare them, to class them according to their values and their relations. The sooner the student is presented with clinical problems the more rapidly he will finish his apprenticeship.

Too often the disease becomes a sort of abstraction which makes us forget the patient. Moreover, it is not unusual to find a student who has a sufficient theoretical concept of the disease, but who is incapable of recognizing it at the bedside of the patient, and who wishes to force into his "bookish" conception a concrete fact which is peculiar and does not enter into the classical scheme.

These are some of the reasons which suggest the utility of teaching the future physician very early to consider the clinical fact as being the point of departure of his effort of observation and reasoning, and the necessity of securing a clinical experience as vast and as varied as possible. This system provides physicians versed in the art of medicine, who are capable of diagnosing an illness with certainty and applying adequate treatment, either personally or with the aid of qualified specialists.

EACH AGE HAS its own questions and its own answers, and a new society develops not merely by finding better answers to the old questions, but by asking the old questions in better form.—*Suzanne K. Langler, in her book, "Philosophy in a New Key."*

Counseling Activities in a Medical School Setting

ROBERT I. WATSON

WITH THE CURRENT demand for physicians and the present high rejection rate of medical school applicants, it is a very serious matter when a medical student, highly selected as he is, must be dropped from school. The fact that generally the attrition rate is low perhaps is cause for congratulations. It does not mean, however, that the effort should be lessened to drive down the already low rate or to maintain it at the present level in the face of increasingly high standards of achievement.

Quite apart from the social obligation at a medical school to graduate as many physicians as its standards will allow, there is the obligation to the individual student, once accepted, to arrange conditions so that he can make as good a showing as his potentialities will permit. The fact that guidance activities, conducted from these motives, occasionally are found to reinforce or even initiate steps taken to eliminate the student from medical school in no way contravenes these obligations. Nor does it follow, as a consequence of such guidance activities, that standards are lowered or that there is coddling of the student. In large measure students set their own standards. Help for those who need and desire it has the effect of increasing the efficiency of the individual student, thus increasing the efficiency of the group and consequently raising standards.

At Washington University Medical School there is provision through the dean's office for helping students with their problems. Counseling activities are primarily the responsibility of two staff members: a physician and a psychologist. Sometimes they work together concerning a student; on other occasions they function separately, although with a free interchange engendered from several years collaborative experience in counseling and admissions. The physician is responsible for medical and social matters. For example, quite appropriately internship placement and residency problems fall within his province. In the case of the author, a psychologist, the presenting problems with which he deals are primarily those concerned with academic standing. This article is a description of his work.

Needless to say, the symptom of worry about academic standing, given most often by the student, does not necessarily mean that the only problem is that of increasing efficiency of study. Sometimes complaint about standing serves merely as a calling card to make it possible for the student to start with this and then lead to what really is troubling him. Through both this indirect route and more directly from the very be-

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ginning, students discuss problems of a social nature, emotional difficulties, uncertainty about choice of a career as a physician and a host of less numerically important issues. Sometimes a psychiatric or general medical problem arises outside the author's field. Close liaison with the student health service makes possible referral with a minimum of red tape.

In another connection[1] the writer draws a distinction between counseling and psychotherapy although cautioning that the distinction is blurred and hard to differentiate except in terms of degree. This description follows:

> Counseling generally involves a shorter rather than a longer series of sessions, deals with reactive problems rather than intrapsychic conflicts, may stress intellectual factors rather than emotional ones, is likely to deal with non-incapacitating rather than severely disturbing and involved maladjustments, often places the symptom or symptoms in the center of focus, is likely to deal with relatively normal people rather than neurotics or psychotics, and is based upon a rapport rather than a transference relationship.

The Students

During one school year 25 students from an undergraduate student body of about 350 were seen more than once in this counseling setting. Twenty-one were freshmen, two were sophomores and one each was a junior and a senior. They averaged about six sessions with a range of from two to 15 sessions. In six instances referral was made by the writer to the psychiatric section of student health, although five of these students were seen concurrently. One already was seeing a psychiatrist.

Evaluating the effectiveness of the counseling they received is extraordinarily difficult. A control group of uncounseled students who sought counseling or were referred to the writer, compared with matched counseled cases, might be a method of studying effectiveness, but hardly one that appeals either on the grounds of justice or common sense. One must be content at this juncture with improvement after, but not necessarily due to being counseled, and with the presence of a low attrition rate. In the freshman class used illustratively above, two of 89 freshmen were not promoted to the sophomore year. Both were counseled, but one was not seen until nearly the end of the academic year. Their class standings will be given shortly.

Students who are being seen often show certain characteristics in common. First, they are worried about their academic standings. Their past academic experience has led them to expect to do well. The competition offered by their fellow students, the sheer amount of work to be covered, the high standards set by the faculty and students, the lengthy class and laboratory schedule, uncertainty as to how their work is judged and other factors conspire to create a hectic atmosphere that has led the writer on more than one occasion to use the analogy of the trauma of war.

This worry emphatically is not confined to students in the lower third of the class. Examination of the eventual standing of those students in last year's freshman class who were seen by the writer showed that 30 per cent were in the upper third, 20 per cent in the middle third, and 50 per cent in the lower third. The relatively large representation of the upper third is in part created by "anxious" scholarship recipients who

worry unduly about their standing.

Second, the students are well motivated. They want desperately to succeed. Sometimes this leads to a slightly ludicrous situation in which the counselor finds himself pleading, at least figuratively, with tears in his eyes, that the student arrange his schedule so that some recreation be taken aside from hurried cups of coffee with classmates. That this motivation sometimes shares in the hectic quality previously mentioned must be indicated. It is plausible, of course, that some students take it more calmly and it may be that these are precisely the ones who are not seen. On the other hand, the fact that in recent years only a small proportion of those leaving school escapes the "eagle-eye" of the dean's office would indicate that it does not include too many without at least some modicum of motivation. I believe it will be accepted by most individuals that the student does not drift through medical school.

Third, medical students often show an astonishing disregard of the rules of the game of study. Herein lies a paradox. Precisely because they had been good students of considerable ability, they did not have to learn to study efficiently. To many of them "grades came easy." This is not to say they were irresponsible or dilettantes; they simply did not need to study very hard or efficiently to do creditable work. Consequently, as medical school freshmen, as one student put it, "with the textbooks three times as thick," they found themselves handicapped. It will be noted that "disregard" rather than "ignorance" of efficient study techniques is mentioned. Once their attention is directed to other methods of study they sometimes are reminded that they once used such procedures, but often place their prior usage at the freshman year in high school.

Use of Illustrative Tools

Counseling is primarily a process of interaction between student and counselor. Nevertheless, some of its more static aspects, expressed through the tools used in the process, may be of interest. Very often tests, a check-list of study principles and a study manual are of some value in counseling. Each of these will be described in turn.

The Medical College Admission Test is available for use as part of the selection procedure and for guidance purposes. Its use in selection is irrelevant at this juncture but not the counseling function it may serve. The very fact that scores for both verbal and quantitative ability, social science and premedical science achievement are available makes differential use possible. Although the scaling of scores with a mean of 500 and a standard deviation of 100 makes stable interpretation possible, it also has proved useful to provide percentile scores that are based upon the entire freshman class.

Thus, we have national figures through the scores themselves and percentile positions for the local population. In addition, a battery of standardized tests described in more detail elsewhere[2] is administered locally at the beginning of the freshman year and local percentiles derived. The tests include a zoology achievement test, a chemistry achievement test, a speeded verbal aptitude test, a "power" verbal and quantitative aptitude test, a reading comprehension test, a vocational interest blank and a personality questionnaire. If necessary, staff psychologists administer other measures, particularly projective techniques such

as the Rorschach. These tests give some conception of the individual student in terms of the functions they measure.

Several very practical uses of these tests have been found. For example, they yield valuable supplementary information when a question arises about the academic status of a student. Students whose records suggest the possibility that drastic action in the form of dropping, repeating or making-up deficient work may be taken by the promotions committee are an apt illustration. In such instances the test scores are consulted for whatever pertinent information they may yield. Usually the scores are interpreted to the student so that he can gain some conception of their significance and a rough idea of "par" for his work in medical school.

A very simple and valuable tool is a time sheet. This is a one-page form with days written across the top and hours in the left-hand margin. It allows the student to keep track of how he spends his time. Later, another copy may be used to arrange a more efficient schedule if this appears worthwhile. After a relatively short time it is possible to accumulate enough experience to judge the nature and extent of deviation of a particular student from both the modal and optimal distribution of time.

A check-list of study principles prepared by the writer makes it possible for the student to state quickly, efficiently and succinctly his habitual ways of studying. There are 64 items on which he is to rate himself on a five-point scale from "never" to "always." The items are divided into the seven categories of general study procedures, arranging the study environment, preparing a time budget, taking notes, reading and using books, preparing for examination and taking examinations. Representative items are concerned with using self-recitation, concentration, having study environment free from distraction, spreading study periods in a planned economical manner, organizing notes, underlining in books, beginning review for examinations and managing to remain calm during examinations.

A study manual based upon these 64 principles presented in the same sequence and format as the check-list is made use of occasionally. After the more pressing study problems have been worked through in individual conferences, the manual is loaned to the student with a suggestion that he look it over to find the three or four suggestions that strike him as particularly relevant for his own needs. Those that he finds useful are discussed at a later session.

A Case Study

The nature of counseling activities will be made more explicit if a specific case is presented. It was decided, moreover, that a more effective presentation and one protecting the anonymity of the students involved would be a composite case. In doing this, it is hoped to capture the spirit, if not the letter of many of the counseling sessions held with medical students. The six sessions with the student are described consecutively:

When the student arrived for his first appointment he appeared somewhat anxious and apprehensive, but not unduly so. As a consequence I soon asked, "What's on your mind?" He indicated, "When you gave your talk to the freshmen about coming in to see you if something comes up, I never thought it would be me, but here I am." After a moment, which I left unfilled, he went on to say that, "So far we have had two quizzes in biochemistry. On the first I received

a poor and on the second, a failure. In anatomy I got an average, and I feel that if I give it enough time I can keep ahead." He continued by giving details about his grades, and so on, and then sat back expectantly.

Unverbalized as it was, he gave me the impression that he was waiting for his prescription now that he had given me his symptoms. This was reinforced when I asked him what he thought caused the difficulty. He was taken aback and gave the impression that, "after all you're the expert, you tell me." Nevertheless, he did offer the suggestion that chemistry, particularly organic chemistry, had been a relatively weak subject for him in college. This seemed to exhaust his thinking concerning causes.

I pointed out that we were collaborators dealing with a cause-effect sequence. This sequence was known at the moment only through the effects, principally his relatively poor school performance, while it was our task to unearth the causes and then take steps to correct the conditions which gave rise to them. The collaborative element was emphasized by pointing out that he knew much more about himself than I could possibly ever know. Here and throughout all sessions, verbalized or not, the impression was given that, after all, he had to do the work and all that I could do was coach. This was done, not in any spirit of disinterest or of coldness, but from a recognition on my part that eventually whatever change took place would be due to his own efforts.

I then sketched for him the possible areas where we might look for the source or sources of his present difficulties. These were categorized as his past academic achievement, his aptitude and ability, his efficiency in study, his amount of study, his physical health, his emotional state and his motivation and interest. It was indicated that aptitude, achievement and, to some slight degree, interest, would be explored through the test battery, supplemented by analysis of his application folder and discussion between us; that quality of study would be investigated through the study habits check-list; and that the quantity of study would be specified through weekly time sheets. From time to time during this discussion he raised questions and offered comments, but aside from strengthening the impression of a need for dependence, there was nothing noteworthy.

I then indicated that physical state, emotional factors, and motivation might be explored briefly at this time to see if anything would be obvious immediately. I asked in a very general way about his health. In effect, it was an exploration to see if any symptoms had been noticed, especially since school started. Emotional factors were baldly introduced as "anything getting him down," while motivation was inquired into by the question of whether he sensed any change in his feeling about continuing in medical school. He disclaimed anything of importance in the three areas.

It was then again explained that this was a first exploration and matters might be seen in a new light later, when they could be reopened. Taking up these delicate matters at the first session was deliberate policy based upon several considerations: first, sometimes talking about study problems is nothing more than a "calling card," with the student desperately wanting to talk in some other area but not knowing how to get around to doing so; second, it is obvious that adequate care includes

immediate referral to appropriate sources for physical symptoms or apparently rather deep-seated, emotionally-rooted problems. In the first instance, the appropriate referral source would have been the student health service, and in the second the psychiatric section of this service. There was nothing I could see from this discussion that would lead me to believe the student had reservations in the disclaimer of difficulties in these areas.

He was then asked to keep a time schedule for one week "doing that which came naturally," and to complete the check-list of study habits.

At this point he expressed tentatively and hesitantly a certain wonder about how official his visits with me were. This led naturally to a statement on my part of the confidential nature of the sessions, because the administrative connotation of the writer's title of assistant dean might otherwise build some reserve and reticence concerning attitudes toward faculty and curriculum. It also was indicated that if administrative action such as the necessity of considering his academic standing in the promotions committee ever appeared likely, his permission to discuss matters, if they were pertinent to the issue, would be sought. And it was suggested that if there still remained any cause for concern in the spring, he might return for another visit just before that committee's major annual meeting at which it considers promotion to the sophomore year.

This seemed to satisfy him and he tried me out with various comments concerning teaching methods in use on which he had rather pronounced opinions. I made it clear that only insofar as they might have relevance to his own particular problems were these pertinent. (I did not want to be maneuvered, as students often try to do, into a position where his damning the faculty and the teaching, and my failing to disagree with him would act to draw us together into a "conspiracy" against the school.) I placed it on this basis: "If these are the practices as you see them, the other students are affected by them as well, and the question now is how can *you* handle the situation?"

He wanted to know what might happen to him if he flunked biochemistry. The various possibilities were presented in detail, ranging from his being dropped from school at the end of the year, through having the failure changed to a condition if he met departmental requirements, which would permit him to enter the sophomore class. Generally a student in academic difficulties is not quite sure what possibilities face him and he welcomes a detailed statement, grim though its implications may be. He summed up the discussion: "If I keep up my other courses, I stand at least a chance of not being dropped." I agreed, stating it a bit more optimistically, but cautioned him that the decision would not come until a meeting of the promotions committee, still many months away.

The next session was devoted to an examination of the test scores. The findings are reproduced below in terms of test score and percentile position, the latter based upon the freshman class of which he was a member.

	Score	Percentile
MCAT Ability	675	82
MCAT Modern Society	625	75
MCAT Science Achievement	605	42
Coop. Chem. Achievement	32	33
Coop. Zool. Achievement	119	51
Minnesota Reading	26	95
Personnel (Ability)	22	2
CAVD Comprehension	13	86

	Score	Percentile
Arithmetic	15	45
Vocabulary	14	97
Directions	17	97
Total	59	94

Strong Vocational Interest Blank: "A" ratings for artist, psychologist, physician, osteopath in Group I; for personnel director, YMCA secretary, social science high school teacher in Group V; for advertising man and author-journalist in Group X. Mostly "C" ratings in the following families of occupations: science, Group II; indoor business occupations, Group VIII; and sales, Group IX.

The individual report sheet showing these scores was examined together. The meaning of the MCAT scores (500 equaling the mean, 600 one standard deviation above the mean, and so on), when translated into nonstatistical terms; and a description of the percentile by actual examples from his own scores, paved the way for a description of the findings summarized here:

This student apparently has considerable ability, particularly verbal ability as contrasted with quantitative ability, in that the tests appropriate to this show percentile position in the top quartile. Reading ability, as an aspect of verbal ability, was also high. The lowest percentile he received was for a measure which tentatively may be considered to demonstrate a person's ability to deal rapidly with relatively easy verbal material. In this he was strikingly weak. Nevertheless, in a "power test" high ability was demonstrated. Achievement, on the other hand, in the sciences either fell at the median or slightly below. The lowest percentile was for knowledge of chemistry. Relatively high achievement in the social sciences also was apparent. His interest pattern was such that his interests resembled those of the physician and related people, workers in the social sciences and persons in the highly verbal occupations. It was noted that his interests were dissimilar to workers in the physical and biological sciences.

So far as the total consideration of the interest test results are concerned, they indicate a person who, although suitable for a career in medicine, would not turn to the basic sciences nor be especially interested in the basic science medical subjects. On the other hand, his strong social service motif would suggest a medical career in those specialties or in those aspects of general practice which stress social factors. It is noteworthy in this connection that, when informed that many individuals showing this particular constellation of scores and interests turn to psychiatry, preventive medicine or pediatrics; he expressed himself as seriously considering either one of the last two or possibly general practice in a small town.

It is evident from these results that relative weakness in biochemistry, the presenting symptom, might well be expected both on the basis of a relatively poor preparation in chemistry and a general background which would act against an overwhelming interest in this field. Also on the debit side so far as first-year work is concerned, was his low percentile position on the speed factor. However, his high general verbal ability and a record which placed him rather comfortably up in the class suggests that he would be able to complete the medical school curriculum successfully. I hazarded a guess that "par for the course" in the freshman year would be about middle of the middle third.

At the third session, one week later, the time chart was analyzed. It was found that he was studying 44 hours per week while the modal amount for freshmen is from 30 to 35 hours. In addition, 15 hours were being taken for recreation while the modal amount during the freshman year is 20 hours.

The only other deviation from the freshman modal picture was his tendency to sleep somewhat less—50 hours per week instead of the more usual 55. He disclaimed any need for a greater amount of sleep, and careful questioning showed no apparent ill-effects.

This left the question of study versus recreation. The latter consisted entirely of snatches here and there with no time off except about two hours on Sunday morning. He was dissatisfied with this but saw no way out. I discussed two factors that might serve to change it—cutting down on some of the half hours, which in the long run left him dissatisfied, and studying somewhat less. (This appeal to study less is not based on sentimentality—I am convinced students trying to study beyond a certain amount actually are decreasing efficiency and learning less than they would in a shorter number of hours.) These decreases would leave time for recreation in larger doses—a date, movie, opera or burlesque show—whatever he might want to do provided it got him out of the medical school setting. We agreed that the distribution should be about 40 hours study to 20 hours of recreation instead of about 45 to 15.

The next three sessions may be summarized more concisely. Except for side-issues such as discussion of the hectic atmosphere prevailing, delay in getting back quiz papers, analysis of the grades received in the various subjects, the emphasis was upon a detailed analysis of several major study principles. Emphasized with him, since his study check-list showed him to be especially weak in those areas, were reciting to himself, techniques of increasing concentration, methods of increasing speed of coverage of the material, spacing of study, learning what *not* to learn and specific ways of dealing with biochemistry, his weakest subject.

Throughout the interviews there was implicit and explicit recognition that he had to work this out himself. Several changes appeared: he seemed to gain in self-confidence, two or three quizzes showed some improvement, he viewed the medical school scene more calmly and, lastly, he grew a bit restive at our continued sessions. This last is a common phenomenon and often is nothing more than a signal that our mutual task is done and that the student, now able to stand on his own feet a bit better, was ready to go it alone. We faced this together and decided mutually that further sessions were not indicated.

Summary

An attempt has been made to summarize some aspects of the counseling activities carried out in one medical school. It was the intent of this paper to show how a psychologist functions in a counseling setting in a medical school, and to direct the attention of other medical schools to the possibility of such service. This was done in order to show its usefulness, not as a panacea, but as an aid in the task which all medical school personnel share — the training and professional growth of the medical student.

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The Intern Shortage, the Foreign Graduate and the Law

ALLYN B. LEY

"No person shall practice medicine . . . in the State of New York . . . unless licensed . . . This article shall not be construed to affect or prevent the following:

"(b.) The practice of medicine in a legally incorporated hospital by a physician duly appointed as a member of the resident staff . . . *provided that on or after July 1, 1952 the said member of the resident staff or intern has completed not less than four satisfactory courses . . . in . . . or has received . . . a medical degree or diploma from a medical school in a foreign country maintaining a standard not lower than that prescribed for medical schools in this state,* or a license to practice medicine in a foreign country issued under requirements not lower than those exacted for a medical license in this state."*

This legislation was originally promoted by the state medical society to insure that the hospital care of patients in New York State be limited to physicians whose medical educational backgrounds meet certain minimal qualifications. The precise establishment of these minimal qualifications has proved difficult, and the state has not resolved the problem by publishing a list of approved schools since this list concededly omits many foreign schools which are represented by graduates in this area. Some of these schools may meet at least the established standards but critical information about them is not readily available.

As a matter of administrative expediency, it is not practicable for the state to attempt individual evaluation of each foreign graduate applying for an internship. It is difficult, then, to devise a means of evaluation other than the present one of closely correlating the expected performance of a physician with the quality of the school which grants him his degree. It is entirely possible, however, and eminently and urgently desirable to gain critical information about a greater number of the foreign schools and, hence, perhaps to lengthen the approved list.

Regardless of the intent with which the law was drawn or the wisdom with which the minimal qualifications are established, there is little doubt that the law will elevate professional standards, if only by excluding from hospital participation many distinctly inferiorly trained physicians. The chief disadvantage is that the law also might exclude some adequately trained men.

Upon contemplating enforcement of the law, however, it becomes readily apparent that a grave disruption of hospital organization and of medical service will occur in a

*The Education Law of the State of New York, Article 131, Section 6512, Paragraph (b), Amended 1949 and 1952.

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great number of our community hospitals unless adequate preparations are made in advance by the individual hospitals. In an informal voluntary survey of hospitals in Greater New York in January 1951, it was discovered that there were 698 graduates of foreign schools engaged as members of the house staff in 72 hospitals. Of that number, 506 were graduates of schools not approved by the state of New York. The sudden subtraction of these 506 house officers would result in a chaos which is unpleasant to contemplate.

The Intern Shortage

It is immediately obvious that the problem of the employment of foreign trained physicians bears directly on the major hospital problem of the current period: the intern shortage. At present the foreign-trained physicians, with relatively few exceptions, are being employed as interns in lieu of graduates from American schools.

In view of the statistics summarized in the 1952 report of the intern matching program, this is not surprising. For the 10,414 internships listed in the United States and territories, there were available for July 1, 1952, only 5,564 graduates of schools in the United States.

In an attempt to complete their intern rosters, hospitals feel forced to seek graduates from abroad. While many of these graduates may meet professional standards considered adequate in this country, there are many more who by reason of general and medical educational deficiencies and of language and cultural barriers are unquestionably not adequate, and, furthermore, never will be without additional formal and extensive professional education. It is to protect the citizens hospitalized in the state of New York from substandard care in the hands of this latter group that the state education law was constructed as noted above.

As far as the individual physicians with inadequate backgrounds are concerned, it would seem a dubious advantage that they be granted permission to be employed as interns with little or no prospect of ever advancing to the stage where they are permitted to practice medicine. This might even be termed a form of exploitation. If the probabilities, or even certainties, are that they will never achieve sufficient skill to practice adequate medicine in this country without further formal training, they would do well to consider the possibilities of entering other fields of endeavor, of utilizing their limited skills in less demanding niches of medicine (as technicians, for example) or of migrating to areas where the professional standards are less exacting than in this country, or at least in this state.

If it is granted that professional standards should be maintained and that, therefore, the existing legislation is not only justified but desirable, many hospitals in the state are facing a problem of the first magnitude in organizing for the medical care of hospitalized patients. In spite of the relative urgency of the situation, there has been some surprising indifference and inertia, perhaps due to bewilderment, on the part of the hospitals most likely to be affected by the enforcement of this already existing legislation, and on the part of other groups who should be concerned with hospital standards and intern education.

It is clear that the intern shortage is not going to be alleviated substantially in even the remote future

by what necessarily would be a tremendous increase in the output of physicians from schools in this country. It is equally clear that even the most rapid approval of all reasonably adequate foreign schools could not significantly close the large gap between available internships and available intern candidates.

New Concepts

Hospitals should not despair of being able to employ adequately prepared physicians as interns. What they need is a proper appreciation of the changing concept of the internship and a bold and dynamic approach to the solution of the intern shortage.

It still is not generally appreciated that the internship is no longer a period of employment at a low rate of remuneration for the multifarious tasks, skilled and unskilled, which must be done to keep a hospital functioning, with an occasional opportunity to catch a pearl or two of wisdom casually dropped by a senior member of the staff. The intern candidate of today has been well taught that the internship should be perhaps the most intensive period of his medical education. In addition to having the opportunity for responsibility for care of a variety of patients, the intern should expect an optimum of supervision, a maximum of skilled instruction, particularly at the bedside, from devoted, competent and enthusiastic attending men, and at least some opportunity for consultation with the literature; all this in an atmosphere that emphasizes to some degree the academic and intellectual aspects of medicine.

In these days, the hospital always is going to be short of candidates where the intern is overburdened with unskilled and educationally fruitless tasks, where he is not given primary and important responsibility for the care of his patients, where his clinical instruction is unorganized, desultory and incompetent, and where he is considered primarily as an employee of the hospital.

Reapportionment of Duties

It is unquestionably true that in view of the great discrepancy between the number of intern candidates from approved schools and the number of available internships presently offered, many community hospitals will be unable to fill their complement of interns in spite of the most assiduous and effective efforts to make their internships an attractive educational experience. This can mean only that if professional standards are to be maintained, a substantial share of the work now being done by interns, and particularly by inadequately trained interns, must be accomplished by other means. We are in a new era as far as the internship goes, and this fact makes imperative some modifications in the organization of hospitals for the diverse functions involved in providing service to patients.

The service now being provided by interns must be apportioned to other members of the hospital organization. The wider use of unskilled personnel for relatively unskilled functions is clearly indicated. Laboratory technicians may be employed for not only the routine laboratory procedures but for emergency work at all hours. Technical personnel can be developed to provide service for such time-consuming duties as the administration of intravenous fluids and blood, catheterizations, etc. The heavy surgical load now borne by the intern may be lightened profitably by employing nurses or

even technicians to assist at operations on private patients. In many minor operations assistants are completely superfluous anyway. Ambulance calls rarely should require the attendance of a physician, and the municipal authorities should be so informed and persuaded.

At the other end of the scale, the attending staff can assume more intimate responsibility for their private patients. Admission histories and physical examinations on private patients can be recorded by the private physicians. Certain hospital procedures also should be performed by the private attending doctors. In the exigencies of the situation, the attending staff can assume direct responsibility for emergency coverage of the hospital on a rotational basis.

Some or all these adaptations are in effect in a few hospitals throughout the state and nation. Wider application of them is one of the most important factors in the solution to the problem of the intern shortage, and hospitals should be encouraged to examine the functions of their interns to ascertain what other arrangements can be made to provide for these functions.

In certain hospitals it may be discovered that interns are not an absolute necessity; in others the number of interns required may be appreciably or even drastically reduced without impairing the standards of medical care to the patient. The overall result of a universal earnest effort to apply these principles would be to substantially reduce the gap between internships and available interns.

Summary

In summary, it is not only justified but desirable that the state education law be enforced as presently constituted beginning July 1, 1953. Enforcement undoubtedly will inconvenience many community hospitals, but its impact should awaken the hospitals' interest in the modern concept of the internship as primarily an educational experience rather than as a period of employment.

To meet the problem of the intern shortage, which will be intensified by enforcement of this legislation, the organization of many hospitals must be modified in a bold but reasonable and practicable manner. The modifications required should result in maintenance of existing standards of medical care and more efficient use of interns, as well as in development of more attractive and satisfactory internships for future graduates of medicine.

Since this article was submitted, the New York State Education Law cited above has been amended. Under the provision of the amended law, an intern no longer is required to present any educational qualifications whatsoever. A resident in a voluntary hospital, but not in a state or municipal institution, must be a graduate of an approved school or otherwise eligible for a medical licensing examination, unless he has entered the country on a non-immigrant visa.

This amendment, passed principally by reason of the influence of hospital administrators whose interest is apparent, thus completely abolishes all standards for interns, about whom there should be the most concern, and also permits the employment of unqualified persons as residents in state and municipal institutions where adequate supervision is often least likely to be available.

In view of this recent lowering of standards, the sense of the remarks originally submitted seems even more pertinent than under the previous circumstances.

Pathology—Present and Future

The time has come for taking stock of the place of pathology in medicine and medical education.

J. F. A. McMANUS

PATHOLOGY HAS not played a major role in at least two important recent developments in medicine. The atomic bomb effects have been carefully described. Nowhere are the precise mechanisms explained. Similarly, the pituitary adrenal relationships and the multiple roles of the adrenal cortex have been elaborated with only minor help, if any at all, from pathology. These two instances are characteristic of many others which suggest that the time is suitable for a stock-taking of the place of pathology in medicine and in the medical curriculum.

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Regarding the latter feature, the emphasis given to pathology in the medical school course should reflect the advantages of the subject to the future doctor. The following paragraphs will present some aspects of the content, outlook and methodology of academic pathology which leave something to be desired. The ways in which these deficiencies can be, or are being supplied will be discussed.

Within the past 50 years there has been considerable alteration in the

Table I

TRENDS IN MORTALITY & TEXTBOOK SPACE*

	Textbooks %		*Space*	*Mortality %*		
Disease	*1900*	*1950*	*Change*	*1900*	*1940*	*1950 (M.L.I. Policyholders)*
Heart Disease	9.5	10	+5.5%	7.5	27	36
Cancer	12.5	9.25	—25%	3.5	11	19.5
Pneumonia	2.1**	1.8	—14%	10.3	5	1.8
Tbc.	3.0**	3.07	+.07%	11.5	4.1	2.8
Cirrhosis	1.3	1.5	+17%	0.7	0.6	.....
Syphilis	1.0	3.2	+220%	0.6	1.3	.....

*Data on "Textbook % Space" taken from four 1900 texts and the seven texts most used today, editions of 1940 to 1951.

**1900 textbooks of pathology devoted much additional space ranging from 12 to 15 per cent to the general principles of inflammation.

Table II

FATAL DISEASES LACKING PROPER TEXTBOOK EMPHASIS

Disease	*Mortality Position*	*Rate*	*Textbook Space*
Cerebrovascular accidents	#3	9.5%	0.6%
Accidents	#5	8%	2.85%
Diabetes Mellitus	#8 (1940)	2.2%	0.87%

chief causes of death. A large part of the credit for this may be claimed by the pathologist. In this same period there has been no corresponding change in the proportion of space given to the various disease processes in the textbooks and courses of pathology. (See Table 1.)

In an earlier period in the history of pathology, emphasis was given to those causes of death which were being most actively studied since least was known about them. Pathology today has succumbed to the temptation of discussing at greatest length those diseases about which we know most and which are no longer prime problems to the physician. For example, tuberculosis has fallen from first to fifth in urban, and much lower in the rural mortality tables, pneumonia from second to sixth before 1940, and since 1940 practically disappeared. We have little evidence that emphasis in the textbooks or courses is altered.

When morbidity, as contrasted with mortality, is considered, pathology is at least as much out of step. The common cold is our single most prevalent illness and a great industrial economic problem, responsible for 50 per cent of industrial absenteeism. Among the seven most popular textbooks of pathology three do not index the disease; three others have from a sentence to a paragraph or two of mention. Only one textbook has discussion and an "illustration" of the microscopic appearances. Accidents and the effects of trauma, the various sensitivity mechanisms, industrial cancer and the whole subject of cardiovascular-renal diseases, share with coryza and the other common acute respiratory diseases a lack of adequate emphasis. (See Table 2.)

It may be argued that the course in pathology teaches principles which are applicable to the different problems of specific diseases. It does not seem necessary now, nor was it the practice earlier to dissociate frequency or prevalence of disease entities from the teaching of principles. Originally, the main killers—pneumonia and tuberculosis—were prototypes of inflammation. With some rearrangement, everything in the way of principles about inflammation could be taught in the discussion of the common cold and its upper respiratory complications and sequelae, the usual sinusitis, tonsillitis, etc. The features of pneumonia, of tuberculosis and of the other infectious diseases could be integrated with this.

With a shift of the introductory emphasis to the common diseases—

coryza, sinusitis, tonsillitis—from the less common killers—lobar pneumonia and tuberculosis—it should not be overlooked that tuberculosis is still a prevalent disease. In many portions of the world, tuberculosis in its fatal form is increasing more rapidly than the case finding and isolating procedures of public health services can handle it. The disease still merits considerable emphasis for the medical student. It is true today, however, that people can enter adult life without conscious knowledge of tuberculosis except through the Christmas seal campaigns.

Compared to its prevalence and the mortality and morbidity which tuberculosis caused in the earlier days of pathology, the present role of tuberculosis is not such as to capture the interest of the student to the same degree as previously. The same holds true for lobar pneumonia. Pathology should show itself aware of these changes by introducing the students to inflammation by the study of common inflammations.

Similarly, cellular changes, growth and its disorders and the retrogressive changes including necrosis could be discussed in the presentation of cancer. This sort of integration would serve two main purposes: time would be saved, and interest would be stimulated.

There is much to recommend a readjustment of the teaching of pathology to put the subject in a closer relationship to the prevalences of disease as suggested by present-day mortality and morbidity tables. At the same time the teaching of the principles or disease-processes as such during the consideration of the diseases seems feasible.

This "modernization," while considerable in degree, would be incomplete without a corresponding change in factual content and outlook. The course in pathology needs more clinical emphasis and orientation. The necessity for this should become clearer when the business of the pathologist is considered.

Leaving out of the discussion clinical pathology and experimental pathology, the main material of pathology is derived from autopsies and from surgical operations. In autopsy studies, the pathologist is attempting to retrace the development of disease, associating postmortem findings with the clinical history. In surgical pathology, the pathologist is predicting the future development of disease, as well as trying in many instances to retrace its past development to some degree. The surgical pathologist may be presenting only a diagnosis such as fibroadenoma of the breast or scirrhus carcinoma of the breast. Implicit in the diagnosis is the prediction that usually the fibroadenoma will be completely cured by surgery while usually the carcinoma of the breast will not be cured without radical and extensive surgery and frequently even with it. Each surgical pathology diagnosis implies a prognosis.

The material of the pathologist then, has to do with disease in an individual and relating to clinical history or outcome. Instances recur to the surgical pathologist where clinical information is necessary for diagnosis. The melanoma which is benign in the child of four is histologically identical with one which is malignant if taken from a man of 40, and so on.

Similarly, the autopsy pathologist will observe the changes of disease whose importance is indicated only by the clinical history; that is, the terminal minor lobular pneumonia of the myasthenic patient. In repeating

fashion the proper orientation of the disease process to the patient is brought home to the pathologist, whether primarily surgical or autopsy.

The place of pathology in medicine as one of the social sciences, dealing with individuals rather than with facts as such, is repeatedly indicated to the pathologist in the practice of his profession. As this idea grows and develops, the "pure-scientist" or "dead-house" pathologist becomes less and less a problem. As MacCallum has said, clinical medicine and pathology are simply two different aspects of the one problem. The wards and ward rounds should be as familiar to the pathologist as the autopsy room, the surgical bench or the laboratory.

Methodology

Granted that the clinical orientation is proper and necessary for the pathologist, let us consider for a moment the methods of the clinical sciences as contrasted with pathology. This review will indicate to what degree the pathologist has developed a methodology equivalent to that of the other basic disciplines.

In clinical medicine and surgery, a large and increasing number of precise and quantitative procedures are available. Dynamic tests of physiological derivation are in frequent use. Many are recent in development. The majority of tests have to do with chemical determinations of body fluids or products, while a very considerable number of procedures measure some function of the body or of one of its parts. Added to these more common methods of investigation are a limited number of morphological examinations, most of them involving the blood or bone marrow. Occasionally studies of skin scrapings or cell smears are used. Biopsies of internal organs or lymph nodes are frequent, and like skin tumors, are submitted to surgical pathology.

The material in surgical pathology, like that in the study of autopsies, is handled by a series of procedures the most recent of which in most laboratories dates from 1920. (See Table 3.) Some laboratories carry the tissues through an accelerated dehydration machine of recent origin, but the principles employed are quite old. When the tissue sections are stained, usually by materials of uncertain composition working on unknown tissue constituents in an obscure fashion, the pathologist has before him on the microscope stage a preparation which allows the recognition of static morphological appearances. The pathologist, even though he is not "dead-house" in outlook because of a bent for clinical information, has material to study which is far removed from the dynamic quantitative and chemical procedures of the clinical sciences. It seems that pathology has failed to develop technical procedures in keeping with the other branches of medicine. The pathologist has failed also in his thinking for lack of use of chemical and quantitative terms.

Before the pathologist is criticized too severely for his static morphological viewpoint and thinking processes, it should be pointed out that other basic preclinical subjects share the same dubious distinctions. In most curricula, the anatomical sciences teach morphology at the same time that biochemistry and physiology are stressing dynamic chemistry. The dichotomy that is continued in pathology is represented, then, in the beginning of the medical school course.

Table III

DATE OF INTRODUCTION OF USUAL PATHOLOGY METHODS

Purpose	*Name of Technique*	*Date of Origin*
Fixation	Formol Saline	1893
Fixation	Zenker's Solution	1894
Fixation	Bouin's Solution	1897
Dehydration	Alcohol's	Before 1890
Dehydration	Acetone	1905
Dehydration	Dioxane	1931
Imbedding	Paraffin	1869
Imbedding	Celloidin	1879
Sections	Frozen Sections	1842
Stain	Ehrlich's Hematoxylin	1886
Stain	Harris' Hematoxylin	1898
Stain	Delafield's Hematoxylin	1885
Stain	Eosin	Before 1875
Stain	Mallory Eosin-Methylene Blue	1904
Stain	Heidenhain Aniline Blue-Orange G-Mallory	1915 (1897)
Stain	Van Gieson Picro. Fuchsin	1896
Stain	Masson Trichrome Stain	1921
Stain	Weigert's Elastica Stain	1898
Stain	Verhoeff's Elastica Stain	1908
Stain	Orcein Elastica Stain, Unna	1891
Nerve Impregnation	Cajal	1888-1912
Nerve Impregnation	Bielschowsky Ammoniacal Silver	1902
Nerve Impregnation	Bodian Protargol	1936
Blood Smears, Stain	Romanowsky	1891
Blood Smears, Stain	Leishmann	1901
Reticulin Stain	Foot-Bielschowsky	1924 (1902)
Myelin Sheath	Weigerts	1884, 1896
Myelin Sheath	Weigert-PAL	1886
Myelin Degen.	Marchi	1885
Neuroglia	Cajal	1923
	Hortega	1917, 1928

It is possible for pathology to serve as the bridge between morphology and function by considering both chemically. Undoubtedly, morphology must continue but to it will be added more chemical information, especially that of a dynamic variety. The developing science of histochemistry promises to contribute this necessary information both of structure in chemical terms and of cellular dynamics and enzymology. It is fortunate from the viewpoint of histochemical pathology in many instances that activities are recognizable chemically at a cellular level despite the fact that the reactions concerned are molecular in type. The question raised by Danielli and others as to whether the more "natural" chemical reaction can be recognized in the tissue section or in the test-tube is apropos this consideration but not closely related to the main problem of having the pathologist think in chemical and physiological terms.

Place of Pathology

In many ways the different points raised in the preceding discussion are part of one integral problem: the maintenance of pathology in a leading and contributing place in the medical sciences. A proper "modernization" would include: (1) a rearrangement of the course in pathology more in keeping with present-day morbidity and mortality tables; (2) reorganizing the material to talk about diseases to begin with,

rather than disease processes; (3) an increasing and constant consideration of the clinical aspects of the science of pathology and, (4) a dynamic and chemical way of thinking about disease, which is leaning in increasing degree upon the developing data of histochemistry.

Each of these points is not in itself major. Added together, their contribution to the medical school curriculum and to the problems of medicine might be increased to a considerable degree. The end result will be a return of pathology to the contemporary field of medicine, a natural and desirable evolution.

Broad patterns of progress can be recognized in the development of a science. The evolution of medicine is marked by the temporary domination by one or another of the basic disciplines. The cause of the emergence to prominence of the one basic discipline usually can be found in the invention of new methods or concepts, or the application to its problems of the methods developing in another basic discipline. The early development of pathology, for example, came with the borrowing from anatomy of microscopic methods. Sequentially, temporary domination by anatomy, pathology and bacteriology have occurred. We are now in the phase belonging to chemistry, physiology and pharmacology.

In recent years it has been evident that the process in medicine is additive rather than substitutive. One basic discipline does not replace another. For a while bacteriology was in eclipse, but it is now reborn as microbiology with chemical, anatomical and pharmacological means of study enlarging its role. A similar process of falling into a secondary place occurred for a while in anatomy. With the application of physiological and chemical methods, anatomy is resuming its prominent position.

When the temporary decline or eclipse of a basic discipline is analyzed, usually several causes can be found. The most common error seems to be development of a preoccupation within the discipline, an insularity which prevents cross-fertilization by other basic disciplines and by clinical applications. The other main cause is a lack of appreciation of a change in the problem of disease. As mentioned above, pathology is showing a number of evidences of eclipse, the causes of which can be corrected.

The Role of the Health Center in the Education of the General Practitioner

JACOB H. LANDES

IN THE PAST decade, medical schools have stressed the teaching of clinical preventive medicine to medical students and have placed less emphasis than formerly on public health aspects such as sanitation.[1]

Since clinical preventive medicine is a relatively recent development in undergraduate teaching, there is a lack of information on this subject among older graduates. It would be profitable, therefore, to create learning opportunities for practicing physicians as well as for present undergraduates.

To the public health administrator, practitioners trained in the application of preventive medicine to clinical practice are an asset in carrying out an effective public health program. Progress toward this end will be made when the physician becomes aware of the value of preventive medicine in his own practice. How can that be achieved?

The author, as district health officer of the Department of Health of New York City assigned to the lower east side district, and as a member of the faculty of the department of preventive medicine of the New York University College of Medicine, has attempted to create a greater interest in preventive medicine among physicians and dentists of his district.

In 1951, there were 683 physicians whose offices were located in the district. However, 44 were engaged full-time in research, teaching or administration. Fifty-eight specialists had their offices in three professional buildings in the district, rendering service to nondistrict patients, and 232 physicians were either specialists or were connected in a visiting capacity with one of the hospitals in the city. Thus, of the 683 registered physicians, only 349, or approximately 50 per cent, were general practitioners serving the district. A small number of the physicians with major hospital connections included in the previous category also may have been engaged in general practice (see Table 1).

TABLE 1

Physicians of the Lower East Side District

Full-time physicians of university	31
Full-time physicians of other institutions	13
Physicians wth major hospital connections, or specialists	290
General practitioners	349
TOTAL	683

Table 2 shows that 40 per cent of the general practitioners in the dis-

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trict had been in practice 30 years or more, and 59 per cent for 20 years or more.

TABLE 2

Years of Practice of General Practitioners in the Lower East Side District

Years	Number	Per Cent
Under 10	68	20
10 to 20	75	21
20 to 30	66	19
30 and over	140	40
TOTAL	349	100

Many of these physicians are aware of the public health services rendered in the district, and take advantage of New York City Department of Health resources available in the health center. They frequently refer patients for consultation to such health center clinics as those specializing in tropical disease, nutrition and cardiac consultation. Children from the school health service and well-baby clinics are referred for follow-up care to the practitioners of the district. Physicians apply to the health center for biological products such as gamma globulin, smallpox vaccine and immunizing agents for diphtheria and pertussis, as well as for supplies for laboratory examinations.

The number of physicians utilizing these services, however, make up a small percentage of the total number of those practicing in the district. From personal contacts with many of the local physicians, the health officer recognized that some of them are not familiar with health department activities, and quite a few, especially those who have been in practice for a long time, generally lack knowledge of those procedures of preventive medicine essential to good practice or helpful in a public health program.

The necessity for additional educational programs in New York City where hospitals, universities, county medical societies and the Academy of Medicine have lecture programs for the profession, may be questioned, but attendance at lectures is small, and those attending are mostly specialists with good hospital connections. The state and city health departments offer occasional short courses in certain phases of preventive medicine, but these are limited to a small number of physicians and are full-time courses for one or two weeks, thus making it difficult for the general practitioner to participate.

From personal discussions with practicing physicians of the district, it was realized there is a need for graduate education, particularly in the field of clinical preventive medicine, through channels which are not ordinarily available. In planning a program which will be of value to the general practitioner, it must be so arranged that it does not consume too much of the physician's time, is conducted at his convenience, and is composed of didactic or seminar discussions supplemented with illustrative clinical material. Considering these requisites, the Lower East Side Health Center organized an educational program which included three courses: cancer detection, diseases of the eye and heart disease.

The courses were limited to 15 to 20 physicians having either no hospital connections or only minor positions in outpatient services. The courses were conducted by members of the faculty of the New York University-Bellevue Medical Center, either in teaching hospitals or at the health center. No tuition fee was charged.

Cancer Detection: The first course was on cancer detection. For a num-

ber of years, the University Hospital of New York University-Bellevue Medical Center has been conducting a cancer detection clinic subsidized by the New York City Cancer Committee, which is similar in scope to those conducted by the New York City Department of Health in several health centers. This clinic operates two sessions a week and applicants pay a nominal fee. While the main objective of the clinic is to detect early evidence of malignancy, other defects may be discovered. The findings are transmitted to the "patient's" physician.

In arranging the course for cancer detection, it was intended to familiarize physicians with the procedures followed in the clinic for the examination of well persons and to indicate that such a procedure can be adopted by a physician in his own office. The routine included a proctoscopic examination and the taking of a vaginal or cervical smear for pathological exfoliative cells.

The course consisted of four two-hour sessions. The first two sessions were seminars conducted by members of the staff and devoted to discussing the early diagnosis of cancer of manifest sites such as cancer of the skin, breast, thyroid, rectum and cervix, as well as nonmanifest cancer such as lungs, stomach and intestines. Professional films on cancer of the breast and stomach, provided by the New York City Cancer Committee, were shown in connection with each seminar.

After the entire group had their clinic observation, a review seminar was conducted at which all the members of the clinic staff were present and comments, questions and suggestions by the physician group were encouraged. It is interesting that one of the questions raised was the lack of facilities for the examination of vaginal and servical smears. This prompted the university to apply to the New York City Cancer Committee for a grant to establish such a service in connection with the cancer detection clinic for the use of lower east side physicians. This service was established as a pilot study early in 1952.

Diseases of the Eye: The general practitioner is often in a position to be the first to recognize pathological conditions of the eyes.[2] The next venture in the educational program was, therefore, organization of a course in diseases of the eye, with particular emphasis on early symptomatology and early diagnosis. The course stressed foreign bodies in the eye, injuries to the eye, glaucoma and cataract. It was planned by the department of ophthalmology of the New York University-Bellevue Medical Center.

The plan of registration and attendance was similar to the one on cancer detection, and was limited to 15 physicians. The course consisted of three two-hour sessions. The clinic session was conducted at the outpatient department of Bellevue Hospital. It is of interest that a number of the physicians attended the outpatient clinic the entire week and would have preferred a longer observation period had the clinic been able to accommodate them.

Heart Disease: For the past five years a study of the administrative procedures for the detection, registration and follow-up of cases of rheumatic fever and rheumatic heart disease in school children has been conducted in the lower east side district by the department of preventive medicine of the New York University College of Medicine. This study was made with the board

of education, the department of health and the New York Heart Association, and used the facilities of the cardiac consultation service of the health center. About 35 per cent of the children on the rheumatic fever register were under the care of private practitioners. An effort was made to obtain greater utilization of the cardiac consultation service by private practitioners to promote more accurate diagnosis and treatment.

The experience gained by staff members of the project from their daily contact with practicing physicians indicated the need for additional educational activities for the general practitioners, and so organization of the course in heart disease followed. Four seminar sessions were arranged on the diagnosis and management of congenital cardiac anomalies, and errors in diagnosis of rheumatic fever and heart disease in children.

The course was given in the health center, and patients of the cardiac consultation service were used as illustrative material. The course was attended by 22 physicians. The clinical seminars were conducted by members of the faculty of the New York University-Bellevue Medical Center and were presided over by the supervising cardiologist of the cardiac consultation clinic of the department of health.

The courses arranged for the general practitioners of the lower east side district are pilot projects. Judging by the attendance and reaction of the participating physicians, the material presented was of value. Short courses on other subjects in clinical preventive medicine undoubtedly would find an equally receptive response.

The department of health and the medical school should assume the responsibility, as part of their educational programs, of including the teaching of preventive medicine to medical practitioners.[3, 4] Voluntary agencies could assist by making funds available for an adequate program. Such teaching should be done in conjunction with clinical facilities and should not be limited to didactic lecture or seminar programs.

Summary

A program of education of the general practitioner in clinical preventive medicine is described. The program included courses on cancer detection in well persons, diseases of the eye, and heart disease. These courses were planned with the purpose of familiarizing the general practitioner with problems which he can recognize and treat himself or refer for consultation or treatment when indicated. The courses were conducted by the lower east side health center of the department of health of New York City in cooperation with the New York University-Bellevue Medical Center and nonofficial agencies.

It is felt that an official agency and a medical school both have a responsibility for teaching clinical preventive medicine to the general practitioner, and that financial support should be obtained for the organization of courses.

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A Progress Report—

The Cancer Teaching Program in Medical Schools

RAYMOND F. KAISER

SOMETHING OVER five years have passed since the first grants were made to schools of medicine by the National Cancer Institute to improve the undergraduate teaching of cancer. A review of the progress made in the program at this time is of particular significance, since it means that students in the majority of schools have had an opportunity to benefit from the coordinated teaching of cancer at every logical step as they progressed through their four years of undergraduate work. Let us review what has happened during this five-year period.

At the outset this program had several objectives:

1. Developing an awareness of cancer among medical students.
2. Coordinating cancer teaching in any manner which would provide the student with a comprehensive concept of the disease in all its aspects at some time during the course of his studies.
3. Emphasizing the need for group presentation and consultation in the diagnosis and treatment of cancer.
4. Utilizing current knowledge concerning the disease, filling in gaps in the students' knowledge.
5. Improving the medical service to cancer patients.
6. De-emphasizing instruction as to the incurability of cancer.
7. Stimulating student interest in cancer research, and
8. Increasing the participation of the internist in cancer teaching.

In initiating the program, it was realized that the method for teaching cancer would vary from school to school, and there was no desire by the institute to suggest a uniform plan. It was decided that each school should develop the type of procedure which best met its particular circumstances.

The use of grant funds was left to the discretion of each school concerned insofar as possible to permit maximum flexibility, with the reservation that these monies should not be used to replace existing budgetary commitments or to underwrite specific research projects. This philosophy has been followed throughout the five-year period and will continue to be the basis for the program policies in the future.

Looking back at the first year of operation, this degree of freedom, along with the lack of precedents and the absence of specific instructions as to program content, led to a certain degree of hesitancy and confusion in the organization of programs. The situation provoked a review of existing cancer teaching practices by medical school faculties, and resulted in the development of appropriate pol-

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Dr. Kaiser is chief of the cancer control branch, National Cancer Institute, Public Health Service. This article is based on a report to the medical school cancer coordinators, September 1952 in Boston.

icies within the schools governing cancer teaching programs.

It was further recognized that to fulfill effectively the purpose of the program, considerable integration was necessary. Thus, a position within the schools, variously titled but essentially that of coordinator of cancer teaching, came into being. Initially, the schools experienced some difficulty in obtaining qualified individuals to serve in this capacity. Within a relatively short period of time, however, all participating schools had designated a staff member to serve as coordinator. At present, there are seven radiologists, 24 pathologists, 37 surgeons, seven internists, and four others, serving as cancer coordinators.

As the schools gained experience in the teaching program, it was found desirable to extend the efforts at coordination through a cancer committee, with the cancer coordinator serving as chairman and with representation from the departments of radiology, surgery, pathology, internal medicine, medical administration and research. These cancer committees have diverse responsibilities, but in general they concern themselves with cancer teaching and research and serve as a screening advisory group for all matters relating to cancer within the medical school. Today, practically all medical schools have established such cancer committees.

In the process of preparing for the program, most schools found a great need for visual aids, teaching devices and equipment, so that during the first year of operation approximately 25 per cent of the funds were used for permanent equipment. This percentage has dropped precipitously during the five-year period to approximately 3.5 per cent during the current grant year.

Another factor which has influenced expenditures for equipment was the need in some schools to establish or expand cancer teaching clinics. The cancer teaching program has accelerated the establishment of such clinics in 20 schools and assisted in the expansion of such services in 39 additional schools. This has provided an opportunity to broaden the students' experience with cancer through clinic participation.

Increased student clinic participation coincides with the trend taking place in other areas of the medical curriculum. It is significant, however, that although clinic instruction has been increased in practically all schools, some schools have recognized limitations to this type of instruction and have attempted to compensate for these limitations.

Throughout the program there has been a trend to broaden the students' concept of cancer by offering assignments in home care medical programs and family advisory programs. In addition, assignments for periods of several weeks to local health departments have provided students with an opportunity to observe at close hand, and individually, the cancer activities included in a public health program. Such programs give the students additional clinical experience of a type and variety that usually cannot be provided in a teaching hospital. They also serve to better prepare the student to understand the cancer problem and modern society's medical needs in relation to the disease.

During the first year of operation of the program, approximately 62 per cent of the grant funds were used for personnel. An analysis of the current grant year (1952) indicates that approximately 82 per cent of funds are being used in this manner—a shift which is of considerable signifi-

cance to the cancer teaching program since it represents the addition of a sizable number of individuals to the staffs of the nation's medical schools at the faculty level and the supporting staff level as well.

Since the inception of the program, there has been considerable discussion and variance of opinion as to the advantage of "horizontal" versus "vertical" teaching. Although there are proponents for each plan, it has become apparent throughout the years of program operation that in by far the majority of schools the best solution is a combination of both methods of teaching, determined in large part by the custom in each school. These problems are being gradually resolved.

Returning to the objectives of the program which were mentioned earlier in this article, it now is possible to point to a number of general accomplishments:

1. It has increased the awareness of cancer among students and medical school faculty members.

2. It has brought about a coordination of cancer teaching of a type not previously in existence in the medical schools.

3. It has broadened the cancer experience of most students with a resultant increase in cancer knowledge, as evidenced by Dr. Bierman's recent report on cancer learning.

4. It has assisted in the establishment and further development of cancer clinics with the holding of regular cancer conferences in teaching hospitals and a resultant improvement in the medical service to cancer patients.

5. It has focused attention on visual education to a greater extent than ever before with the establishment of photography departments and collections of visual materials.

6. It has encouraged student research in a number of schools.

7. It has assisted in the development of cancer research programs in many schools.

8. It has focused attention and assisted in the development of follow-up services with the establishment of more adequate record systems.

9. It has brought about closer working relationships between the medical schools and official health agencies.

10. It has furthered postgraduate teaching in cancer.

11. It has stimulated the participation of the internist in cancer teaching.

These general accomplishments indicate that the program has fulfilled, partially in some cases and completely in others, a number of its original specific purposes. Further accomplishments promise to be great, and the National Cancer Institute will continue to be interested in this activity and to offer the maximum assurance possible under the circumstances of continued support.

Experience is still too limited to evaluate fully the effectiveness of the cancer teaching program. It is clear, however, that as a group the medical schools today are conducting programs of cancer teaching and research that surpass both quantitatively and qualitatively any of their previous efforts.

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Teaching Clinic

A Pharmacology Teaching Exercise With Barbiturates

AVRAM GOLDSTEIN

THE TEACHING EXERCISE described here was carried out during the first week of our course in pharmacology.* The members of the second-year class served as subjects. The experiment was designed to accomplish the following objectives:

(1) To provide a vivid introduction to pharmacology through a safe demonstration, in the human subject, of the action of a widely used group of drugs.

(2) To bring the student face to face, at the earliest time, with the evaluation of drug effects in patients, the influence of placebos and biological variability in response to drugs.

(3) To present a model of a properly controlled clinical trial,[1] which will exemplify simultaneous lecture material on experimental design, statistical analysis of data and conservative interpretation of results.

The class was told that certain hypnotic drugs were to be tested. Students were urged to participate unless there were special reasons for not doing so, to make their observations as objective as possible and not to exchange impressions or speculations about the drugs until the experiment was concluded.

As each student left the lecture hall, he took a small envelope containing a *capsule*, an *instruction sheet* and a *work sheet*. The work sheets were collected the following noon. After the data had been analyzed, a *summary* was prepared and distributed.

CAPSULES—Capsules of identical appearance were prepared, containing 0.1 Gm. of Secobarbital (seconal), Pentobarbital (nembutal), or lactose. Each capsule was placed in an envelope bearing a serial number, which had been assigned by the use of a table of random numbers. None of the students or teaching staff (except the individual who designed the experiment) were told what drugs were being used or that a placebo was included.

INSTRUCTION SHEET — The subject was told not to participate unless close to his bed for one and one-half hours prior to his usual bedtime, and under no circumstances before driving a car, or if "sleeping pills" had produced untoward effects in the past. He was directed to record his own pulse rate at three five-minute intervals, just before ingesting the capsule (one hour before his usual bedtime), and again, in the same way, one-half hour later. Attention was directed to the various questions on the work sheet, to be answered the next day.

WORK SHEET—This was in the form of a questionnaire, which could be answered by "yes" or "no," by checking an appropriate word or entering a number, thereby facilitating routine compilation and statistical treatment. Spaces were provided for entering

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*Assistance by other members of the department is acknowledged as is the help of the Eugene Higgins Trust which provided financial support.

the code number of the capsule, the student's name, the time of ingestion of the capsule, and the pre- and post-ingestion pulse rates.

Questions were of the type: "Did you become unusually drowsy during the one-hour period after ingesting the capsule?" "Did you sleep more soundly than usual?" "Did you have hangover drowsiness (more than normally) the next morning?" "Do you take sleeping pills often?" Opportunity is offered for the student to indicate the occurrence of such symptoms as blurring of vision, excessive urination, palpitation and dry mouth that are presumably irrelevant to the drug action. The student was asked to estimate, as well as he could, the time required for the drug to reach its maximal effect; or to indicate, if he wished, that he felt the drug had no effect whatsoever.

SUMMARY—A model analysis was prepared. The compiled data were presented for each question according to the drug (or placebo) administered. The groups were first shown to be comparable with respect to "drop-out" percentage, pulse rates and history of previous use of hypnotics. The pertinent data were then similarly presented. Means were followed by their standard errors, and P values ($> .05$, $< .05$, or $< .01$) were given for all differences between drug (or placebo) groups.

Following the table of data, a section on interpretation explained why a placebo was included,[5] why randomization was important, how comparability of the groups was tested. The data were then anlyzed and conclusions drawn about the relative hypnotic efficacy and the time course of the two drugs. The unusual "side-effects" that occur (as frequently in the placebo group as in the drug groups) were commented upon.

Space does not permit a detailed presentation of the data obtained, but the following summary, taken verbatim from the sheet distributed to the class, will indicate the kind of results that can be expected:

In a group of 95 volunteers ingesting at bedtime 0.1 Gm. Secobarbital or Pentobarbital or a blank lactose capsule (randomly assigned), and reporting the next day, the following results were obtained:

1. Neither drug produced a significant change in the mean pulse rate, although there was a small but significant decrease in *all* groups as bedtime approached.

2. Secobarbital and Pentobarbital, at this dose, were apparently effective in inducing drowsiness and bringing about sleep more quickly than usual in less than half the subjects; and in producing the subjective impression of having slept more soundly than usual in less than one-third of the subjects.

3. The data were consistent in showing that in those subjects upon whom the drugs had a positive action, the hypnotic effects developed within the first hour. Despite its alleged short duration of action, Secobarbital appeared to produce hangover drowsiness in one-quarter of the subjects. Pentobarbital caused this after-effect in nearly one-half of the subjects, but a real difference between the two drugs in this regard could not be established. No one in the placebo group reported hangover drowsiness. The great majority (80 per cent) of the subjects with hangover drowsiness were precisely those who had experienced some hypnotic effects. It would appear, therefore, that in most healthy young subjects neither drug will reliably produce a hypnotic action without leading to hangover drowsiness. (N. B. We have no right to assume that these findings apply to patients with insomnia.)

4. Although Secobarbital is alleged to be a short-acting barbiturate and

Pentobarbital a medium-acting one, it was apparent that at equal doses, under the conditions of this investigation, the two drugs did not differ materially in any respect.

5. A number of unusual "side-effects" was reported in the placebo group as well as in the drug groups.

Summary: A teaching exercise was presented in which second-year medical students observe the effects (on themselves) of ingesting a hypnotic drug or a placebo.

We believe this simple experiment is a suitable introduction to the study of pharmacology because it confronts the students in a dramatic way with some of the complex problems of evaluating drug effects in the human being. The material serves to exemplify the proper design, execution, statistical analysis and interpretation of a clinical trial.

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Editorials and Comments

The Report of the Survey of Medical Education

THE McGRAW-HILL BOOK COMPANY announces in another part of this issue the publication of the report of the Survey of Medical Education.

This survey was launched jointly, it will be remembered, by the Council on Medical Education and Hospitals of the American Medical Association and by the Association of American Medical Colleges early in 1948. The survey committee, consisting of three representatives from each of the sponsoring agencies, chose as its chairman Dr. Alan Valentine, then president of the University of Rochester, and as director of the survey, Dr. John E. Deitrick, then associate professor of medicine at Cornell University Medical College. Dr. Dietrick, appointed on October 16, 1948, was joined in September 1949 by Dr. Robert C. Berson as associate director, and later by Dr. Thomas Hale Jr. of Albany Medical College, Dr. and Mrs. William E. Brown, then of the University of Vermont College of Medicine, Dr. Stockton Kimball of the University of Buffalo School of Medicine, and Dr. William F. Norwood of the College of Medical Evangelists. A writer, Mrs. Paddy Rudd Howes was later added to the staff.

The basic data for the survey was assembled through the device of extensive questionnaires sent to all medical schools in the United States. Supplementing these data were other data accumulated by five-day visits of a survey team to individual schools. Plans to visit every medical school had to be abandoned due to difficulty in procuring adequate staff personnel during the Korean War, but more than half were visited.

The data were analyzed by the staff and the report written with frequent meetings of the survey committee and rare meetings of the advisory council to advise on the study as it progressed. The final report of 369 pages will contain in its 17 chapters and five appendixes an accurate description of the medical schools in the United States at the middle of the century as the survey staff and committee saw them. Many of the problems presented were such that no immediate answers could be provided.

To all medical educators this volume should provide both satisfaction and challenge—satisfaction that the problems of medical education are recognized as many and difficult, challenge in that too many of the problems still lack satisfactory solutions.

The Council on Medical Education and Hospitals and the Association of American Medical Colleges owe a debt of gratitude to Dr. Alan Valentine who has given so generously of his time to guide this important study to a successful finish.

It is hoped that the report of the Survey of Premedical Education, planned as a companion study but under the separate direction of a sub-

committee of which Dr. Aura E. Severinghaus is chairman, will not fail to meet its publication deadline now set for the coming November.

The First World Conference on Medical Education

THE FINAL PROGRAM for the First World Conference on Medical Education, to be held at the British Medical Association House, Tavistock Square, London, England, from August 22 to 29, 1953, has just been received and appears to be a very interesting one, indeed.

Scheduled for the opening plenary sessions are the following addresses: "The Challenge To Medical Education In the Second Half of the 20th Century" by Sir Lionel Whitby, C.V.O., M.D.; "What Is Education?" by Sir Richard Livingstone, D.Litt., LL.D.; "The History of Medical Education" by Prof. John Fulton, O.B.E., M.D.; "Medicine—A Technology Or A Profession?" by Col. S. M. K. Mallick, M.D., F.R.C.P.

The theme of the conference, under the auspices of the World Medical Association in collaboration with the World Health Organization, the Council for International Organizations of the Medical Sciences, and the International Association of Universities, will be "Undergraduate Medical Education."

Section sessions will be held under the direction of four section leaders as follows:

SECTION I: Requirements for Entry into Medical Schools—presided over by Dr. Victor Johnson, director of the Mayo Foundation, U. S. A.

SECTION II: Aims and Content of the Medical Curriculum—presided over by Sir A. L. Mudahar, vice-chancellor of University of Madras, India.

SECTION III: Techniques and Methods of Medical Education—presided over by Dr. A. Hurtado, San Marcos University, Lima, Peru.

SECTION IV: Preventive and Social Medicine—presided over by Professor René Sand, Unwersité Libre, Brussels, Belgium.

Registration begins on Saturday, August 22, 1953. The registration fee will be £ 4 sterling. Simultaneous translation will be provided in all three official languages of the conference, i. e., English, French and Spanish. Proceedings of the conference will be published by the Oxford University Press. The Film Committee of the British Medical Association has arranged for the showing of medical films and there will be an exhibition of films and other visual aids used in medical education as well as a trade exhibition provided by business houses which supply materials used in medical education. Requests for hotel reservations should be directed to the Conference Hotel Agency, care of Dr. E. Grey Turner, local arrangements secretary, B. M. A. House, Tavistock Square, London, England.

Corporate Giving

ON MAY 22, 1953, Judge Alfred A. Stein in Superior Court of the State of New Jersey ruled that corporate contributions to educational

institutions "may well be regarded as a major, though unwritten, corporate power. It is even more than that. In the court's view of the case it amounts to a solemn duty."

The issue was raised by a group of stockholders of the A. P. Smith Manufacturing Company of East Orange, N. J., who challenged the right of the board of directors of that company to vote a $1,500 contribution to Princeton University in 1951, contending that the use of the company's funds was restricted by its charter and by its statutes to "the purpose of creating profits for its stockholders."

In his 21-page opinion Judge Stein ruled that "the contribution here in question is toward a cause intimately tied into the preservation of American business and the American way of life." He also stated: "I am strongly persuaded by the evidence that the only hope of survival by the privately supported American college and university lies in the willingness of corporate wealth to furnish in moderation some support to institutions which are so essential to public welfare, and therefore of necessity, to corporate welfare. What promotes the general good inescapably advances the corporate weal."

An editorial in the New York *Times* of May 24, 1953, concluded "Judge Stein has made a sound decision. It is to be hoped that corporation executives generally will appreciate the wisdom of the position he has stated and help enlarge the role corporations now play in financing the hard-pressed private universities of this nation."

Of interest in relation to the above decision is the following policy regarding higher education adopted by the U. S. Chamber of Commerce at its annual meeting April 29, 1953: "Business must assume a greater responsibility for the financing of higher education in order to undergird the American concept which precludes charging its full cost to students . . . . . Business and education have a reciprocal stewardship; business to support a dynamic system of higher education; education to produce an increasing number of graduates who have been well-grounded in the functioning of the American economic system through an understanding of its operation, and of their responsibilities to safeguard and perfect it."

There appears to be general agreement among steadily increasing numbers of people that business and industry can and should make substantial contributions to the support and strengthening of higher education.

NEWS DIGEST

New Ford Foundation Officers

Dr. Ralph W. Tyler, dean of the division of social sciences of the University of Chicago, has been named director of the recently established Center for Advanced Study in the Behavioral Sciences. The Ford Foundation has appropriated $3,500,000 to finance the project for six years. The site for the center has not been selected.

Named deputy director of the behavioral sciences division of the Ford Foundation is Dr. Robert H. Knapp, associate professor of psychology at Wesleyan Unversity.

New Council Secretary

Dr. Edward L. Turner, dean of the University of Washington School of Medicine, will become secretary of the AMA Council on Medical Education and Hospitals October 1. He succeeds Dr. Donald G. Anderson, secretary since 1947, who has been appointed dean at the University of Rochester School of Medicine. Dr. Turner has been dean at the University of Washington since 1945.

Dr. Turner was professor of medicine at the American University of Beirut from 1933 to 1936. In 1936, he became professor of medicine at Meharry Medical College. In 1938 he also became president of that college and remained in that capacity until 1944. During that time he supervised the reorganization of the schools of medicine, dentistry, nursing, medical laboratory technology and dental hygiene and the George W. Hubbard Teaching Hospital.

Dr. Edward H. Leveroos has been appointed to the newly created post of director of the Division of Hospitals and Graduate Education of the American Medical Association's Council on Medical Education and Hospitals. Dr. Leveroos has been an associate secretary of the Council. In his new position he will be in charge of the council's program of approving hospitals for internship and residency training and of the activities of the staff in the program of the Joint Commission on the Accreditation of Hospitals.

Named to New Post

Dr. Julius Lane Wilson of Philadelphia has been named to the new position of director of medical education of the National Tuberculosis Association. The position was established because of the increasing importance of the program of the American Trudeau Society, the NTA's medical section, in the field of medical education.

Dr. Wilson has been director of clinics and professor of medicine in the Henry Phipps Institute, University of Pennsylvania, during the past year. He also has taught at the medical schools of Yale and Tulane universities.

New Health Council Head

Albert W. Dent, president of Dillard University, New Orleans, was named president of the National Health Council at its June meeting in New York City. He fills the unexpired term of Dr. Robin C. Buerki, who recently resigned. Dr. Dent is the 14th president of the 32-year-old-council, which is composed of 44 national organizations. He has a long record of service in voluntary health and educational fields. He was a delegate to the first World Health As-

sembly at Geneva in 1948 and is a member of the Committee on Fellowships of the Ford Fund for the Advancement of Education.

Pediatric Conference Report

Recently published reports of the Regional Pediatric Educational Conferences held in 1952 show the type of progress made when teachers and practitioners meet on an international and nationwide basis to exchange views and share problems in the field of child health. All of the conferences expressed themselves as being deeply concerned over the inadequacy of pediatric training in the usual rotating internship.

The lack of qualified teachers was discussed and Region V, meeting in New Orleans in November, passed a resolution calling to the attention of the executive board and the committee on medical education the desirability of enlarging the present registry for resident training at the central offices so that it could serve also as a clearinghouse for qualified teachers of pediatrics.

Two points were stressed under general comments on pediatric education. They were: the desirability of reducing formal large class lectures to a minimum and the necessity for giving students the opportunity to have contact with patients in the very early years of medical training.

Copies of the report can be obtained from Dr. E. H. Christopherson, executive secretary of the American Academy of Pediatrics, 610 Church St., Evanston, Ill.

Medical School PR Survey

Results of a national survey of medical school public relations show that 59 out of 75 reporting schools participate in public relations activity to some degree. Of these schools, 22 had full-time public relations personnel, two employed part-time public relations officers and five assigned faculty members to part-time public relations activities.

Public relations services were supplied to 30 medical schools by their parent universities. Among this group 20 schools supplied the services of public relations officers as needed or requested, seven schools assigned personnel to the medical center part-time, and three schools assigned full-time personnel who were not stationed at the medical center.

Among the responsibilities reported by the public relations offices were: press contacts, 49; radio-television, 40; external periodicals, 37; internal periodicals, 28; development of literature, 31; direct mail, 22; exhibits, 23; public speaking arrangements, 19.

Thirty-seven of the medical schools answering the questionnaire reported that the public relations office serves other related university facilities. These included the hospital, the school of nursing, the dental school, the school of public health and the school of pharmacy.

Public relations activities function under specific budgets in 26 schools and under unspecified funds in 23 schools. Public relations expenditures are determined by advanced programming by 15 of the schools and are allocated as specific expenditures of gross budgets by two schools.

Among 32 schools, public relations expenditures are charged as follows: university administration, 15 schools; medical school administration, 7 schools; public relations, 4 schools; communications, 1 school; distributed, 5 schools.

Expansion of public relations activities was advocated by 39 of the medical schools participating in the survey. Eight schools indicated that they believed continuation of public relations at the present level was most desirable and no schools felt these activities should be reduced.

The survey, which was conducted by an independent agency, was distributed to 85 medical schools in the United States and Canada. A total of 88.23 per cent of the schools responded to the questionnaire. Purpose of the survey was to collect information on activities, organization and personnel of medical school public informational activities.

Civilians Named Consultants

Seventeen civilian physicians have been selected as senior consultants to the Surgeon General by the Department of the Army. Each consultant was chosen for his outstanding ability in his chosen field. All are certified by the specialty boards in their fields and most have had some military service.

Named were: Dr. Worth B. Daniels, clinical professor of medicine, Georgetown; Dr. George P. Robb, assistant medical director, Metropolitan Life Insurance Company; Dr. Donald M. Pillsbury, professor of dermatology and syphilology, University of Pennsylvania; Dr. Thomas S. Sappington, associate in medicine, George Washington University School of Medicine; Dr. Harry H. Gordon, assistant professor of pediatrics, Johns Hopkins; Dr. John W. Trenis, associate in medicine, George Washington University; Dr. John G. Reinhold, professor of biochemistry, University of Pennsylvania; Dr. Karl F. Meyer, director, G. W. Hooper Foundation, University of California Medical Center (S. F.); Dr. Robert A. Moore, dean, Washington University; Dr. Frank H. Krusen, head, section on physical medicine, Mayo Clinic; Dr. W. C. Menninger, Menninger Foundation; Dr. Byrl R. Kirklin, chief radiologist, Mayo Clinic; Dr. I. S. Ravdin, director, Harrison department of surgery research, professor of surgery, Graduate School of Medicine, University of Pennsylvania; Dr. Robert A. Kimbrough, professor and chairman, department of obstetrics and gynecology, Graduate School of Medicine, University of Pennsylvania; Dr. Harold A. Sofield, associate professor, department of bone and joint surgery, Northwestern University; Dr. Dean M. Lierlie, head, department of otolaryngology and oral surgery, University Hospital, University of Iowa; Dr. George W. Fish, professor of clinical urology, College of Physicians and Surgeons, Columbia University.

Students Take Summer Jobs

Two hundred sophomore medical students have been added for the summer to the detailing staff of the Armour Laboratories of Chicago. The program was set up with the aid of the deans of medical colleges in areas where their services were needed. The men were selected by their schools and further screened by members of the Armour staff. The jobs give students the opportunity to earn next year's tuition in work which brings them into contact with many medical men.

Fellowships, Grants, Awards

Funds for Medical Education

A check for $1,044,602 has been received by the National Fund for Medical Education from the American Medical Education Foundation. The money will be added to that collected by the national fund for distribution to the nation's medical schools. This is the third such grant made by the AMEF representing physician contributions. A check for $640,683 was sent in 1951 and one for $777,019 in 1952.

Cancer Grants

The American Cancer Society announces grants-in-aid in cancer research to be awarded upon recommendation of the Committee on Growth of the National Research Council. Funds are granted to an institution for support of a specific

research program under the direction of a responsible investigator. Complete details may be obtained from the executive secretary, Committee on Growth, National Research Council, 2101 Constitution Ave., Washington 25, D. C.

Research Applications Accepted

Applications are now being accepted for research awards to be made during the coming year by the American Heart Association and its affiliates. Applications for Research Fellowships and Established Investigatorships should be sent to the association by September 15, 1953, and applications for Research Grants-in-Aid must be filed no later than December 1. Awards will be for studies to be conducted during the year beginning July 1, 1954.

The American Heart Association and affiliates recently announced the awarding of $473,930 for 89 research grants-in-aid on the occasion of its fifth anniversary as a voluntary health agency. The amount brings to a total of six and a half million dollars the sum spent for research studies by the organization and its affiliates over a five-year period.

Vitamin Foundation

Fourteen new grants to 12 universities and two hospitals for research on vitamins and nutrition, amounting to $69,710, have been announced by the National Vitamin Foundation. The foundation gives grants-in-aid for research semi-annually, throughout this country and abroad. Schools receiving such grants include: University of California (S. F.), University of Cincinnati, Western Reserve, University of Pittsburgh, St. Louis University, University of Rochester, University of Toronto, New York (N. Y.) University, University of Texas (Galveston).

Offer Urology Award

Awards totaling $1,000 are offered by the American Urological Association for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been in practice for not more than 10 years and to men in training to become urologists. Questions regarding the competition should be addressed to the executive secretary, William P. Didusch, 1120 N. Charles St., Baltimore.

Meetings

ACPRA Meeting

Public information directors from the medical schools played a prominent part in the annual convention of the American College Public Relations Association, held in Salt Lake City June 28-July 1.

Among the speakers at the seminars devoted to medical school public relations were Marc Waggener, Indiana University Medical Center, and Dr. John L. Caughey Jr., associate dean, Western Reserve. Mr. Waggener is on the ACPRA board of directors representing medical public relations. Dr. Caughey represents the AAMC as chairman of the committee on public information.

Other special medical seminars included the following topics: the role of the public relations officer in the medical center; joint public relations responsibilities of physicians and medical schools; government and industry participation in medical public relations; community relations.

C. Lincoln Williston, Illinois, was named chairman of the medical steering committee for the coming year. Committee members are: Leota F.

Pekrul, Colorado; Joseph J. Adams, Oregon; Joseph B. Kelly, Johns Hopkins, and Max Q. Elder, University of Pittsburgh. Mr. Waggener was elected to the ACPRA board of directors as medical-public health representative.

Medical Libraries Honored

The medical libraries of the Tulane University School of Medicine and the Vanderbilt University School of Medicine received formal certificates from the Medical Library Association in recognition of their association-approved training programs for medical library internships. Certificates were awarded during the MLA meeting, June 19 in Salt Lake City.

The Committee on Criteria presented a report consisting of tabulations of replies to a questionnaire, a book list and a serials list. The committee is attempting to establish minimum standards for medical libraries.

Marion Dondale, librarian at Albany Medical College, was named president of the group.

College Briefs

Medical College of Alabama

During the past school year, grants totaling $220,831 were received by the medical school.

Recent appointments to full professorships include: Dr. S. B. BARKER, pharmacology; Dr. WARNER W. CARLSON, biochemistry, and Dr. E. CARL SENSENIG, anatomy.

Albany Medical College

Dr. GRANVILLE W. LARIMORE, assistant professor of public health and preventive medicine, has been appointed deputy health commissioner of the State of New York. Dr. Larimore has been director of the department's office of public health education since 1947.

A $5,000 grant-in-aid has been received from the Air Research and Development Command of the Air Force. The grant is to be used for studies dealing with the effect of temperature extremes on body fluids and electrolytes. Dr. GERALD S. KANTER, instructor in physiology, will conduct the studies.

Boston University

A cerebral palsy workshop was conducted June 22-July 3 in cooperation with the United Cerebral Palsy Association and the Children's Medical Center of Boston. A series of lectures, demonstrations and clinical experiences on current information and techniques in the education of children with cerebral palsy was offered.

University of California (S. F.)

Dr. B. V. A. LOW-BEER, professor of radiology, attended the Seventh International Congress of Radiology, held in Copenhagen, Denmark, July 19-25. Dr. Low-Beer was scheduled to deliver a major paper entitled, "The Internal and External Use of Radiophosphorus."

Chicago Medical School

Dr. Harold Koenig, assistant professor of anatomy, has received a grant of $22,000 from the United States Public Health Service for research on "Morphologic and Quantitative Study of the Nucleoprotein in Living Cells Grown in Vitro and the Effect of Noxious Agents."

Other recent grants include: $11,600 from the National Cancer Institute to Dr. Hans Elias for study of the morphology of carcinoma of the liver; $6,190 from the National Cancer Institute to Dr. Ben B. Blivaiss for the study of the mechanism of experimental induction and inhibition of testicular tumors in mice; $25,000 from the National Cancer Institute to Dr. Philippe Shubik.

University of Colorado

Dr. Manlove

DR. FRANCIS R. MANLOVE, associate secretary of the Council on Medical Education and Hospitals of the American Medical Association, has accepted the appointment to head the medical center in Denver. He succeeds Dr. WARD DARLEY, who became president of the university on July 1. Dr. Manlove will take up his duties November 1. Dr. ROBERT C. LEWIS, dean of the medical school, will continue as acting director until that time. Included in the medical center are the school of medicine, the school of nursing, the medical division of the graduate school, Colorado General Hospital, Colorado Psychopathic Hospital and the outpatient clinics. Dr. Manlove formerly taught at Temple University.

Columbia University

Dean WILLARD C. RAPPLEYE, in a report to President GRAYSON KIRK of Columbia, has criticised the recent action of the state in repealing the former education requirements for interns and residents in hospitals. The new law permits hospitals to appoint interns without regard to their educational qualifications, Dean Rappleye says, and also allows many hospitals to appoint residents under those same conditions. The change was made in an effort to solve the problem of staffing hospitals.

Dr. EDGAR G. MILLER JR., professor of biochemistry and a member of the Faculty of Pure Science, has been appointed Dean of Graduate Faculties. He assumed his new position on July, filling a vacancy left by the promotion of former Dean JOHN A. KROUT to the post of vice president and provost.

Cornell University

Dean JOSEPH C. HINSEY has been named director of the New York Hospital - Cornell Medical Center, succeeding Dr. STANHOPE BAYNE-JONES. Dr. Bayne-Jones resigned on June 30 to accept the position of Civilian Technical Director of Research of Army Medical Research and Development Program. Dr. Hinsey has been chairman of the department of anatomy since 1939 and dean of the medical college since 1942. He is presently chairman of the Executive Council of the AAMC and served as president in 1950.

Dr. Hinsey

Duke University

Dr. WILEY D. FORBUS, chairman of the pathology department, has accepted a six-month assignment as a Mutual Security Agency consultant in Formosa. His primary task will be to assist in the rehabilitation of the National Taiwan University Medical School, Taipeh, Taiwan. The program will include setting up teaching residencies and residency training programs, as well as establishing diagnostic laboratories in the hospital and medical school and planning the school's curriculum.

The National Foundation for Infantile Paralysis has awarded grants totaling $35,500 for the production of medical teaching films. The Duke movies are used for training medical personnel all over the United States. They are particularly valuable in training personnel who treat polio patients. Three of the films have been prepared with money from the National Foundation. Two completed films have dealt with the functional anatomy of the hand and with the autonomic nervous system.

A two-day forum on recent advances in anesthesia opened the annual postgraduate course in medicine June 22. In addition to the anesthesia program, the course included discussion of the treatment of allergies,

management of head injuries, diagnosis of liver diseases and a general roundup of medical advances.

Dr. JOSEPH E. MARKEE, department of anatomy, has been named an honorary member of the American Orthopedic Association. He is the fourth man to be so honored. The society's membership is limited to 150 active members. Dr. Markee is honored for his work in audiovisual education, particularly the development of teaching aids in orthopedic surgery.

Emory University

Dr. DANIEL C. ELKIN, professor of surgery and chairman of the department for the past 23 years, will retire at the end of the 1953 - 54 academic year. He has served as Joseph B. Whitehead professor of surgery and surgeon - in - chief, Emory University Hospital, since 1939. Dr. Elkin will maintain an advisory and consulting relationship with the school of medicine after his retirement. In 1940, Dr. Elkin was the third man to receive the Matas Medal, awarded by Tulane University for "conspicuous achievements in advancing the progress of vascular surgery."

Georgetown University

The appointment of Dr. FRANCIS M. FORSTER as dean of the school of medicine has been announced. The Rev. PAUL A. MCNALLY, S.J., who has been regent and dean since 1947, has been forced to relinquish his position because of ill health. He has become dean emeritus and director of the Georgetown Medical Center. The Rev. THOMAS J. O'DONNELL, S.J., who for the past year has been assistant to the dean, is appointed regent.

Dr. Forster came to Georgetown three years ago as professor and head of the department of neurology.

Dr. M. A. BLANKENHORN, professor of medicine at the University of Cincinnati School of Medicine, served as professor of medicine pro-tem for the week of May 11-16. Most of the program during the week was devoted to informal ward rounds and small group teaching with attendance limited to senior medical students and house staff.

Medical College of Georgia

Dr. VIRGIL PRESTON WILLIS SYDENSTRICKER, professor of medicine, was honored recently with a testimonial luncheon celebrating the fact that he has served as professor of medicine at the college for the past 30 years.

George Washington University

Two grants, totaling $10,250, have been received for medical research into the value and effectiveness of certain vaccines and drugs used in combating infant and childhood diseases. The grants were made by the Eli Lilly Company.

Hahnemann Medical College

Dr. HAROLD A. TAGGART, assistant dean, will serve as acting medical director of Hahnenann Medical Hospital until a permanent appointment is made. He succeeds Dr. CHARLES E. PRICE, who has become medical director of the general hospital of Fresno County, Calif.

Dr. BERNARD BRIODY, associate professor of bacteriology, has received a grant of $8,000 from the American Cancer Study to finance viral studies on tumors in mice.

Harvard Medical School

The American Heart Association has awarded career investigatorships to Dr. JOHN R. PAPPENHEIMER, visiting professor of physiology, and Dr. ALBERT H. COONS, visiting professor of bacteriology and immunology. The investigatorship is set up to encourage unrestricted, lifetime medical research. The association makes annual awards of $25,000 to cover the in-

vestigator's salary, assistance and supplies.

Dr. DEAN A. CLARK, general director of the Massachusetts General Hospital, has been appointed clinical professor of preventive medicine. He served as a member of the President's Commission on the Health Needs of the Nation.

Dr. MARIUS NYGAARD SMITH-PETERSEN, who served on the staff from 1920 to 1946, died June 16 after a brief illness. Dr. Smith-Petersen became famous for his perfection of an operation in which a metal cup is inserted in a disabled hip to restore mobility. He was clinical professor of orthopedics for 11 years.

University of Illinois

Raymond B. Allen Instructorship Awards have been presented to five faculty members by students. Recipients of keys in the form of "golden apples" from the senior class were Dr. HEYWORTH N. SANFORD, clinical professor of pediatrics, and Dr. FRANK B. KELLY, clinical professor of medicine. The junior class selected Dr. Sanford and Dr. NORMAN B. ROBERG, clinical assistant professor of medicine. Dr. THEODORE R. SHERROD, assistant professor of pharmacology, received a key from the sophomore class and Dr. FAITH LAVELLE, instructor in anatomy, received the award from the freshman class.

Recent Public Health Service grants include: $25,000 to Dr. DANELY P. SLAUGHTER, tumor clinic; $19,332 to Dr. C. C. PFEIFFER, department of pharmacology, in support of a study involving convulsant metabolities which may be of great significance in epilepsy and effective in schitzophrenia; $6,220 to Dr. ADOLPH ROSTENBERG JR., department of dermatology, for a study of desensitization in eczematously sensitized animals: $5,200 to Dr. PARKE H. SIMER and Dr. ARTHUR KIRSCHBAUM, department of anatomy, in support of an electromicroscopic study of the glomerulus.

The department of physiology has received a grant of $10,000 from the Chicago Heart Association for research on experimental hypertensions by Dr. G. E. WAKERLIN and associates. The department also received a grant of $6,310 from the Department of the Army for a study by Dr. A. A. SCHILLER on the effects of substances released from burned skin on the cutaneous circulation of intact animals.

Jefferson Medical College

Dr. WILLIAM T. LEMMON has been promoted from clinical professor to professor of surgery with a seat on the executive faculty. Dr. THOMAS A. SHALLOW continues as Samuel D. Gross professor of surgery and head of the department and Dr. JOHN H. GIBBON JR. as professor of surgery and director of surgical research.

The portrait of Dr. CHARLES M. GRUBER, professor of pharmacology since 1932, who retired this year, was presented to the college by the class of 1953. Dr. J. M. COON, associate professor of pharmacology at the University of Chicago, has been appointed professor of pharmacology to succeed Dr. Gruber.

The Alumni Annual Giving Fund reports a total of more than $110,000 given by over 3,200 graduates of the college this year for the support of preclinical teaching salaries. Over $535,000 has been contributed by alumni in the past five years for similar purposes.

Dr. EDWIN E. GRAHAM, professor emeritus of pediatrics, died June 11 at the age of 89. Dr. Graham was the first professor of children's diseases in 1904.

Johns Hopkins

Dr. PHILIP BARD, professor of physiology and director of the department, has been appointed dean of the medical faculty. He succeeds Dr. ALAN M. CHESNEY, who retired June 30 after nearly 25 years as dean. Dr. Bard will continue in his present position in the department of physiology and will carry on his teaching and

scientific research. Dr. Chesney will continue his association with the school in an emeritus capacity. He plans in the immediate future to devote himself to the completion of the second volume of his book, "The Johns Hopkins Hospital and the Johns Hopkins School of Medicine," the first volume of which was published in 1943.

Dr. LOWELL J. REED, vice president of the university and hospital, retired June 30 after 35 years of continuous association with Hopkins as a member of faculty and administrator. He has been appointed professor emeritus of biostatistics and will continue his active participation in local, national and international matters which relate to his scientific interests.

University of Louisville

Dr. SAM A. OVERSTREET, clinical professor of medicine, has accepted the chairmanship of the John Walker Moore Memorial Fund. A John Walker Moore Annual Memorial Lectureship also has been established at this school.

Dr. EMIL KOTCHER, associate professor of microbiology, has been given a leave of absence for an assignment with the Public Health Service as laboratory director of parasitology for the special technical and economic mission, Mutual Security Agency, to the Associated States of Indochina.

Dr. ARTHUR H. KEENEY, clinical instructor in ophthalmology, is the winner of the 13th annual essay contest, Mississippi Valley Medical Society, for the best unpublished essay on a subject of practical and applicable value to the general practitioner of medicine. Dr. Keeney's paper is entitled "Grass Roots in the Prevention of Blindness."

Marquette University

Dr. JOSEPH F. KUZMA has been named professor and director of the pathology department. He succeeds Dr. W. A. Douglas Anderson, now chairman of the pathology department at Jackson Memorial Hospital, Miami, Fla.

Dr. W. JOSEPH RASTETTER and Dr. EDWARD A. BACHHUBER have been named assistant chairmen of the departments of medicine and surgery respectively. Dr. FRANCIS MURPHY and Dr. CARL EBERBACH will continue as department chairmen.

College of Medical Evangelists

Dr. OTTO F. KAMPMEIER, professor of anatomy at the University of Illinois, has been named professor of anatomy and head of the department.

CME executives have moved into the recently completed $320,000 library-administration building. The new building provides spacious offices for top administrators, and a modern library with a 60,000-volume capacity. Growth of the college is further emphasized by remodeling of the physiology building. Construction work now being done will allow expansion and up-to-date equipment for the departments of physiology, pharmacology and biochemistry. Remodeling will be completed by September.

University of Michigan

Expansion of the activities in the field of industrial hygiene of the Institute of Industrial Health has been announced by Dr. OTTO TOD MALLERY JR., institute director. WARREN A. COOK, director of the division of industrial hygiene and engineering research of the Zurich-American Insurance Companies of Chicago for the past 16 years, has joined the institute staff as a full-time research associate and consultant. He also has been appointed associate professor of industrial health and hygiene in the school of public health.

University of Minnesota

Postgraduate courses to be given in the next few weeks include: symposium on cardiovascular physiology and surgery, September 14-16; postgraduate assembly in endocrinology and metabolism, September 28-Oc-

tober 3; diseases of the chest, October 15-17; dental problems in medicine, October 21; radiation therapy for specialists, October 26-31.

University of Mississippi

Ground has been broken for the new $8,500,000 university medical school and teaching hospital in Jackson which will make it possible to expand the two-year school of medicine to four years on completion. The teaching hospital will have 350 beds and facilities for the care of 50,000 outpatients annually. The first four-year class and admission of hospital patients is scheduled for 1955.

New York University—Bellevue

Dr. MILTON LEVY and Dr. RICHARD C. DEBODO have been appointed to the rank of full professors. Dr. Levy is now acting chairman of the department of chemistry. Dr. deBodo is a member of the department of pharmacology.

March of Dimes grants totaling $47,994 were received recently. The money will be used to enable scientists to continue their fundamental studies of the nutritional requirements of viruses as they multiply at the expense of host cells and to expand a specialized training program in physical medicine and rehabilitation.

A grant of $81,680 for an experimental study to determine the effect of environmental sources on cancer of the respiratory system was the principal allocation in grants made recently by the Damon Runyon Memorial Fund for Cancer Research.

State Univ. of N. Y. (Syracuse)

Dr. JULIUS B. RICHMOND has been appointed professor and chairman of the department of pediatrics. He will be the first full-time professor of pediatrics on the college staff. He succeeds Dr. TYREE WYATT, who administered the department on a part-time basis and will continue his participation in the teaching program as clinical professor of pediatrics. Dr. Richmond has been professor of pediatrics. Dr. Richmond has resigned his position as professor of pediatrics at the University of Illinois.

Dr. WILLIAM A. BRUMFIELD has been named professor of public health and preventive medicine. He has been serving as first deputy health commissioner of the New York State Department of Health.

Two other new department heads are Dr. A. HARRY RUBENSTEIN, professor and chairman of the department of otolaryngology, and Dr. ROBERT O. GREGG, professor and part-time chairman of the department of surgery. With these appointments, Dr. GORDON D. HOOPLE became professor emeritus of otolaryngology and Dr. ARTHUR B. RAFFL was named professor emeritus of surgery.

University of Oregon

Grants totaling $39,880 have been received from the Atomic Energy Commission during the past two months. The funds will be used as follows: $25,000 for the continuation of a hemotology research project under the direction of Dr. E. E. OSGOOD and Dr. A. J. SEAMAN of the division of experimental medicine; $10,780 for the continuation of a biochemical research project being conducted by Dr. E. S. WEST and Dr. J. T. VAN BRUGGEN; and $4,100 for a radium research project being carried on by Dr. FRANK B. QUEEN of the department of pathology.

The Tektronix Foundation, Portland, has awarded a grant of $26,800. A total of $16,000 will be utilized over a two-year period for salary to a neurophysiologist, who will participate in the pain study being carried on in the department of surgery under the supervision of Dr. WILLIAM K. LIVINGSTON, department head. The remaining $10,800 will be expended to support graduate assistants for the next three years.

A Fulbright research scholarship to travel and study for six months in Italy has been received by Dr. ROBERT S. DOW, associate clinical

professor of medicine. He will continue his work on neurophysiological research at the University of Pisa.

Dr. GUY L. BOYDEN, clinical professor and head of the department of laryngology, rhinology and otology, was elected vice president of the American Laryngological, Rhinological and Otological Society.

Northwestern University

Dr. RICHARD V. EBERT, Clark Professor of Medicine at the University of Minnesota for the past year, will become professor of medicine on September 1. He will also be chief of medicine at the Veterans Research Hospital.

Some 106 graduating students pledged $1,000 apiece as a unique senior class gift this year. No time limit was placed on the payments.

University of Pennsylvania

A five-year March of Dimes grant of $120,000 will enable the medical school to strengthen its program of teaching basic concepts and techniques of medical rehabilitation to undergraduate and graduate students. The new rehabilitation center for the aid of the physically handicapped is expected to open next month.

Dr. MAX B. LURIE, associate professor of experimental pathology at the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, is the 1953 winner of the Claude Bernard Medal given by the University of Montreal, Canada. The award was made on the basis of Dr. Lurie's work on genetic resistance to tuberculosis, the role of sex hormones in resistance, the effect of cortisone and ACTH and the nature of acquired resistance.

St. Louis University

JAMES ASHMORE, who received his Ph.D. in biochemistry this June, was awarded the Schering Fellowship in Endocrinology. He will conduct his research on some aspects of intermediary carbohydrate metabolism in the Harvard Medical School with Dr. A. B. HASTINGS, professor of biological chemistry.

Dr. JOHN F. HARDESTY, associate professor of ophthalmology and acting chairman of the department, died June 20 at the age of 65.

University of Southern California

Dr. GORDON GOODHART, who has been on the faculty for five years, became dean of the medical school July 1. Dr. Goodhart has served as associate dean for the past year. He succeeded Dr. BURRELL O. RAULSTON, dean for ten years, who became dean emeritus. Dr. Goodhart is a member of the Committee on Internships and Residencies of the Association of American Medical Colleges.

Southwestern Medical School

Dr. CARLETON B. CHAPMAN has been named professor of medicine. He has been associate professor of medicine at the University of Minnesota.

University of Tennessee

Research grants totaling $43,674 have been awarded to Dr. R. R. OVERMAN, director of the section on clinical physiology, in support of various research projects. Donors are the Atomic Energy Commission, the American Cancer Society, the Public Health Service and Sharp & Dohme.

Dr. FRANK L. ROBERTS, assistant dean, has been promoted to associate dean. Dr. Roberts joined the staff of the college in 1936 as professor and chief of the division of preventive medicine and was named assistant dean in 1949. He was public health officer of Gibson County for many years before he moved to Memphis and is now president of the Tennessee Public Health Association.

Other recent promotions include Dr. R. R. Overman, associate professor of physiology, advanced to professor of clinical physiology.

Dr. DONALD B. ZILVERSMITH, associate professor of physiology, has

been awarded a $5,292 grant by the Atomic Energy Commission for continuation of studies utilizing particles of radioactive gold.

Twenty-two members of the staff participated in a postgraduate program on trauma held July 15-17.

Tulane University

Dr. LAWRENCE PETERS, associate professor in pharmacology at Western Reserve, has been appointed professor and chairman of the department of pharmacology. He succeeds Dr. RALPH G. SMITH, who resigned in 1950 to accept an appointment as medical officer of the U. S. Food and Drug Administration. Dr. FOSTER N. MARTIN has served as acting chairman of the department.

Dr. LAWRENCE PETERS has been appointed professor and chairman of the department of pharmacology. He has been associate professor of pharmacology at Western Reserve. Dr. Peters was awarded a Markle scholarship on his graduation from medical school in 1950.

Dr. CHARLES S. HOLBROOK, professor of clinical psychiatry, retired from the faculty July 1. He joined the Tulane medical faculty in 1920, when he went in private practice in New Orleans. Prior to that time he was a member of the staff of the East Louisiana State Hospital at Jackson. Since 1923 Dr. Holbrook has served as head of the neuropsychiatric clinic at Touro Infirmary, New Orleans. He is consultant in neuropsychiatry at Flint-Goodridge Hospital and a member of the senior staff at DePaul sanitarium.

University of Vermont

A training grant of $13,867 from the National Heart Institute will be administered by Dr. E. L. AMIDON, professor of medicine. The grant will be used to expand the college teaching program in heart diseases. Facilities of teaching hospitals will be enlarged to permit third-year students to spend a period of time in each hospital learning the various aspects of diagnosis and treatment in heart disease.

Vermont was chosen as one of five medical schools to receive a $1,000 scholarship award given annually by the Mead Johnson Company, manufacturers of infant foods. The grant is to enable a graduating senior to take a year of general practice residency following internship. Dr. DELBERT D. GRIFFITH received this year's award.

An international symposium on cardiovascular regulations will be sponsored by the school of medicine and the New Hampshire and Vermont heart associations, September 8-10. Papers will be presented by several speakers from abroad. Cardiac seminars arranged by the division of experimental medicine and sponsored by the Vermont Heart Association will be held September 10-12.

NEW DIRECTORY

The 1952-53 edition of the AAMC *Directory* was published and distributed to the medical schools in April. Additional copies are available and will be sent upon request addressed to the secretary's office, Association of American Medical Colleges, 185 N. Wabash Ave., Chicago 1.

Western Reserve

Dr. ALLAN C. BARNES has been appointed Arthur H. Bill professor of obstetrics and gynecology and head of the department at University Hospitals. He has been professor and chairman of the department at Ohio State University. He succeeds Dr. GILBERT J. VOSBURGH.

Dean JOSEPH T. WEARN has been elected president of the Association of American Physicians, which has a limited membership of 250.

Dr. HARLAND G. WOOD, professor and director of the department of biochemistry, has been elected to membership in the National Academy of Sciences.

West Virginia University

The appointment of Dr. DANIEL THOMAS WATTS, formerly of the University of Virginia, as professor and head of the department of pharmacology, was effective July 1. He succeeds Dr. DAVID FIELDING MARSH, now with the McNeil Laboratories in Philadelphia.

Woman's Medical College of Pennsylvania

Dr. F. BENEDICT LANAHAN has been appointed professor of occupational medicine. Dr. Lanahan who has been medical director for the Electric Storage Battery Company of Philadelphia, brings to this new teaching post a wide experience in industrial medicine, especially in lead poisoning and cardiac rehabilitation.

Yale University

Dr. ARNOLD D. WELCH became chairman of the department of pharmacology July 1. He will collaborate in cancer research with Dr. HARRY S. N. GREENE, professor of pathology. Dr. Welch has been professor and director of the department of pharmacology for the past nine years at Western Reserve.

THE GOOD PUBLIC RELATIONS MAN, we believe, should serve as the "conscience" of his company, just as the good business paper should serve as the "conscience" of its industry. He is paid to help create a climate in which the company can market its products, services or ideas better than it otherwise might be able. If he is to create that climate fully and effectively, he must have the same degree of integrity and authority as the company's general counsel. Anything less means that the public relations man has not yet "arrived."

. . . Public relations is simply the modern, practical, universal application of the golden rule. If we treat others the way we want them to treat us, we have "discovered" public relations and put it to work.
—from the May 15, 1952, ACPRA Newsletter.

Audiovisual News

Plans for Medical AV Council

Sixteen representatives of eight national medical and health associations and the National Film Board of Canada met at the University of Illinois School of Medicine May 21 for a preliminary conference. The conferees emphasized the need for a council or joint committee to attack problems common to all, such as motion picture information services, architectural plans and classroom design, television usage and rights, and production activities. Subject only to favorable endorsements on the part of the parent organizations, the conferees will meet and formally organize in November. At present an interim work group is implementing recommendations made by the conference concerning motion picture information services, and is drawing up the plans and agenda for the fall meeting.

Kansas TV Experiments

The pioneering work in medical television of Paul W. Schafer and the faculty at Kansas finally has come to print in two articles printed in the *Journal* of the American Medical Association. "Television at the University of Kansas Medical Center" (J.A.M.A. 152,1,78-82; May 2, 1953) concerns itself primarily with the planning, equipping, staffing, costs and future plans of the TV teaching experiments. "The Kansas Television Experiment" (J.A.M.A., 152,6,554-557; June 6, 1953) amplifies this discussion of physical realities and enters the realm of educational concepts, curriculum trials, the roles of instructors, and the strengths and limitations of content and media.

Every medical educator will wish to consider the results of the work at Kansas and apply them to his own medical teaching situation. The documentation is accurate and abundant. Trends of the experiment and its interim conclusions are of the highest significance to all medical educators.

New LC Film Catalog

The Library of Congress has started publication of a quarterly catalog which contains a complete reproduction of each of its film and filmstrip cards, as well as a subject index. This catalog constitutes an excellent reference and research tool for the medical school librarian. The catalog may prove to be a valuable alternative to the LC cards themselves as an informational tool within the medical school library (See Journal of MEDICAL EDUCATION, May 1953).

The catalog is entitled "Library of Congress Catalog—Films." It will be printed in three quarterly issues with an annual cumulative volume. The first issue (January-March) is now available. The quarterly issues and the paper-bound cumulation may be ordered from the Card Division, Library of Congress, Washington 25, D. C., for a total of $7.50.

New AV Science Journal

Another addition to the periodical literature of audiovisual education in science is the booklet, "Research Film." The first issue of the new journal was published in November 1952 by the Research Film Committee of the International Scientific Film Association, under the joint editorship of Dr. -Ing. G. Wolf, Göttingen, and M. Jean Dragesco, Paris. Dr. Wolf is Director of the Institut für Film und Bild. Abt.: Hochschule und Forschung, Göttingen; and M. Dragesco is from the Laboratoire d'Embryologénée Comparée, Collége de France.

It is significant that this journal has been established. An increasing number of able men of science have recognized the singular powers of the motion picture to study, record and report data in the natural sciences. A number of these scientists are banded together in the International Scientific Film Association. The new periodical is the result of their feeling of need for intercommunication among men of research and education. Subscriptions and articles are solicited.

International Film Cards

The sharing of films on an international basis is hampered severely by lack of an effective channel for international information regarding these materials. At a Conference on International Standards for Film Cataloging, held at the Library of Congress at the request of UNESCO, it was agreed that UNESCO should establish an international film information center and that each major film-producing country or area establish clearing houses for domestic use. It was recommended that 3x5 cards be the vehicle for this information, that a card very similar to the Library of Congress cards be used for descriptive information and that an additional two cards contain appraisals and availability data.

A similar conference was held in London. The recommendations of both meetings and of film-producing member states have been submitted to the UNESCO secretariat. The secretariat will attempt to develop standards which will be generally acceptable and circulate drafts of the proposed standards to the member states for comment before they are submitted to the UNESCO general conference.

The U. S. conference recommended that the Library of Congress extend its scope to consider the preparation of all cards on films and filmstrips that originate in the United States. These cards would serve both the domestic and the UNESCO markets.

Summaries of Film Reviews

Psychotherapeutic Interviewing Series—Part III: An Approach to Understanding Dynamics

16 mm., black-and-white, sound, 1180 ft., 33 min.

Summary: This authentic film record of an unrehearsed psychotherapeutic interview in a psychiatrist's office illustrates repression, conversion, distortion, anxiety and other dynamic processes. The camera work is unimaginative and sound recording is in part inadequate, yet there is valuable case material for observation contained in the film, provided it is used by a competent instructor.

Audience: Students of psychotherapy, general practitioners, interns, social workers and guidance workers.

Year of Production: 1949; **Country of Origin:** U.S.A.; **Producer:** Presentation Division, Veterans Administration, for Department of Medicine and Surgery, Veterans Administration; **Technical Advisers:** Jacob E. Finesinger, M.D., Harvard Medical School, and Florence Powdermaker, M.D., Veterans Administration.

Distribution: For **purchase** address Chief, Medical Illustration Division, Research and Education Service, Department of Medicine and Surgery, Veterans Administration, Washington 25, D.C.; **Loan** from Central Office Film Library, U.S. Department of Agriculture, Office of Information, Motion Picture Service, South Building, Washington 25, D.C.

Arterial Blood Pressure

27 min., sd., color, 16 mm., 1948, revised 1950.

The historical background of blood pressure measurement is outlined, from Stephen Hales' experiments to the modern aneroid and mercurial manometers. The nature and maintenance of a mercurial sphygmomanometer is presented. The application of the arm cuff, and the auscultation of the systolic and diastolic levels during a 2-3 mm. per second pressure fall rate are demonstrated and explained. Precautions required for accurate readings are shown. Pathological variations in blood pressure are discussed: arrhythmias, coarctation of the aorta, age variations and others. The factors controlling systolic and diastolic levels are discussed: elasticity of vessel walls, cardiac output, blood volume, blood viscosity and the state of the arteriolar bed.

The film is concerned with two objectives: the use of the mercurial sphygmomanometer and the physiology

and pathology of hemodynamics. The content is based accurately upon publications of the American Heart Association. However, there is lack of over-all subject matter grasp, and no clear pattern for understanding is provided, although the skill teaching of sphygmomanometer use in the first portion is perhaps adequate. The illustrated lecture format casts the weight of the message and continuity upon the narration; the visuals are disjointed and frequently meaningless shots, often only vaguely referring to the spoken word, and frankly dissociated in word and picture at many spots. Jagged editing, rather crude drawings and obvious filler shots characterize the production throughout.

The simple skill of handling a sphygmomanometer emerges despite the film's deficiencies, and by itself this first portion of the film may be helpful to those students who must learn to use the instrument.

The section on hemodynamics is muddled, confusing, and inefficient in transmitting its important facts.—*J. L. M. II, with MAVI Panel, 1950.*

Audience: Medical students, student nurses.

Sponsor: W. A. Baum Co., Inc., New York; **Producer:** Joseph P. Hackel, Medical Film Guild, New York.

Distribution: For loan apply to Medical Film Guild, 167 West 57th St., New York 19, N. Y.

Urinary Infections: Bacteriology, Pathology and Treatment

41 min., sd., color 16 mm., 1951.

A historical review of urinalysis and cystoscopes is contrived through impersonations and relic instruments. The anatomy of the kidney is reviewed and the hematogenous, urogenous and lymphogenous routes of spread demonstrated with the aid of a plastic model. Obstruction of the entire urinary tract and its effects are considered, with brief advocacy of specific treatment. Through x-rays, operative specimens and animation, ureteral strictures, lithiasis and tuberculosis are discussed from etiology to treatment. Differential bacteriological diagnosis and management are covered. Drugs for selection and treatment are surveyed with regard to tolerance, toxicity, ease of administration, absorption, effectiveness and cost.

This orientational film of obstructive uropathy and associated infections seeks to be a "visual textbook" of a large subject and, by and large, conscientiously covers its material reasonably well, accurately, and with care for principles rather than facts and skills which tend to be early obsolescent. Pyelitis of pregnancy and pyuria of nonobstructive prostatitis are notable omissions; and the case of carcinoma of the distal one-third of the urethra seems relatively extraneous. Organization is adequate, if somewhat inconsistent in the up-down pursuit of sites of obstruction from kidney to urethra. The contents are arranged in an order traditionally designed for students rather than adapted to the needs of clinicians. As an illustrated textbook lecture, the narration is dominant, and characteristically is concentrated, rapid, inexorable. The narrational bits spoken over the titles and the constant dissociations of screen and voice are irritating; direction is clumsy in spots; but the general phototechnology is adequate.

As a review for practitioners or mixed house staffs the film will provide an effective lesson in urinary tract pathology and treatment. As an introduction for medical students, the presentational defects will interfere with good utilization. Instructors will perhaps wish to devote more time to antibiotics and to practical clinical considerations. — *N.L. and D.S.R. with MMS Panel, 1952.*

Audience: General practitioners, medical students, mixed hospital staff groups.

Scientific Adviser: Grayson Carroll, M.D., St. Louis (Mo.) University School of Medicine, with Victor F. Marshall, M.D., Cornell University Medical College, New York, and Hollis Allen, M.D., director of laboratories, St. John's Hospital, St. Louis; **Producer:** Joseph P. Hackel; **Photography:** John Malinowski; **Sponsor:** Nepera Chemical Company, Inc., Yonkers, N. Y.

Distribution: Medical Film Guild, 167 W. 57th St., New York 19, N. Y.; **Loan.**

The Heart: Cardiovascular Pressure Pulses

23 min., sd., color, 16 mm. ("The Heart" Series, No. 1), 1949.

Dr. Carl J. Wiggers presents the heart as a double force pump whose muscular contractions are mediated by excitation waves recordable on an electrocardiogram. The principle and origin of pressure pulses and their recording by mercurial and optical manometers are demonstrated on a heart model and on animal hearts. The formulation and correlation of atrial, ventricular and aortic pressure pulses are presented in animated diagrams.

This illustrated lecture film on a fundamental physiological subject is con-

temporaneously authoritative. The logic of inclusion of material on the cardiac excitation waves might be questioned, and a more clinical approach might have been more revealing and meaningful to practitioners. The heavy and compact textbook language of the narration, and the obstacles to ready visual perception inherent in much of the screen material indicate clearly that the film is based on the words of the author as delivered on the sound track rather than upon the rich pictorial possibilities of the subject matter.

The importance of the subject and its valid content are somewhat undermined by the film's format, so that the film's value is greater for demonstration of experimental technique than for analytical and correlative detail. Nevertheless, the film will be stimulating to medical audiences, particularly as a review of this significant area of interest, or as an adjunct to lectures on hemodynamics. The accompanying illustrated booklet perhaps teaches the content better than the film, and may on the one hand provide good preliminary information for any showings, and on the other excellent review-reference data.—*J.L.M. II, with MAVI Panels. 1950.*

Audience: Medical students, postgraduate medical groups interested in cardiac physiology.

Sponsor: G. D. Searle & Co.; **Medical Adviser:** Carl J. Wiggers, M.D., Sc.D., Western Reserve University School of Medicine; **Producer:** Kling Studios, Chicago, Ill.; **Scenario and Direction:** John A. Jansen; **Camera:** John H. Lieb.

Distribution: For loan apply to medical director, G. D. Searle & Co., P.O. Box 5110, Chicago 80, Ill.

Accompanying Material: A descriptive, illustrated booklet with reading list.

The Heart: Electrokymography, Venous Catheterization and Angiocardiography

29 min., sd., color, 16 mm. ("The Heart" Series, No. 2, 3, 4 on one reel), 1951.

W. Edward Chamberlain describes the method of electrokymographic fluoroscopy and demonstrates x-ray recordings of the heart border movements. The equipment and procedures of electrokymography are presented, as correlated with other methods of measurement. Cases demonstrate data to be obtained.

Lewis Dexter presents the method and rationale of venous catheterization for the study of circulatory dynamics, particularly as applied to the diagnosis of congenital heart disease. The instruments and procedure are demonstrated on a patient; x-rays show the advance of the catheter; the pressure recordings, blood samples and spirometer readings taken at each point permit calculations based on the Fick principle.

Marcy Sussman explains the value of angiocardiography with injected 70 per cent diodrast. Injection is demonstrated in a case, and two per second x-rays are taken. In a case of multiple congenital cardiac defects, the clinical and laboratory data are expanded by angiography, and confirmed at autopsy.

All three film sections present and emphasize newer techniques of cardiac investigation rather than clinical utilization of the methods. Each is authoritatively given by men who have contributed greatly to knowledge of the subject matter in question. It is not clear what value electrokymography may have; and the unwitting disparagement of fluoroscopy is not supported by the evidence of the merits of the newer method. The precautionary use of a continuous ECG tracing should perhaps have been mentioned with regard to arrhythmias occurring as a result of catheterization; and the function of the team coordinator is less well demonstrated than perhaps is desirable. The great simplicity of angiocardiography is somewhat confused by the complexity of the x-ray instrumentation that is shown.

Each section of this three-part film is an individual illustrated lecture by a distinguished worker. However, only the catheterization section is visually well developed to the point of real clarity of exposition. Planning, camera and recording all are faulty. The narration is almost always dominant and the pictures recessive; and there is abundant dissociation of sound track and screen. Better direction would have helped in the optimal screen portrayal of the able men concerned.

The three sections are discrete and independent films. Apart from the fact that all represent advances in cardiology and concern x-rays, they are essentially unrelated, and should preferably be used independently. The sum of the parts is less than the individual units, for venous catheterization is relatively effective and by contrast angiocardiography is inadequate. Presentation of these films by skilled persons can, however, be very stimulating, and evoke most of the important facts of the content. The accompanying booklet will be helpful.—*N.M.L. and D.S.R. with MAVI and NYAM Panels, 1952.*

Audience: General practitioners and medical students.

Sponsor: G. D. Searle & Company; **Producer:** Kling Studios, Chicago, Ill.; **Script and Direction:** John A. Janssen; **Camera:** John H. Lieb.

Distribution: For loan apply to medical department, G. D. Searle & Company, P.O. Box 510, Chicago 80, Ill.

Accompanying Material: An illustrative descriptive booklet with reading list: **Research.** vol. 30.

Heparin in the Prevention and Treatment of Thrombosis

26 min., sd., color, 16 mm., 1950.

The structure of heparin and its extraction from cow lungs are demonstrated. The in vitro anticoagulant effects and the the fate of parenteral heparin are discussed. Postoperative venous thrombosis is discussed, and the prophylactic use of heparin covered. Heparin's use in coronary thrombosis is advocated (per Irving Wright). Heparin's administration, control, costs and contraindications are contrasted with dicumarol. Heparin is stated to be as specific in the treatment of thrombosis as is insulin for diabetes (per Jorpes).

This film presents one side of a controversial subject in such fashion that the many errors of omission and commission may seriously affect the validity of the facts as presented. Moreover, the scientific material is presented as a sound track talk accompanied by disjointed visual material which is sometimes illustrative but more often is meaningless "filler." The visual pace is usually ineptly set to the speed of the narration rather than to the comprehension time of the pictures themselves.

The biased viewpoint and the illustrated lecture format combine to produce a film which should be used with caution and awareness of the controversial nature of the scientific materials. *—N.M.L., with MAVI and NYAM Panels, 1952.*

Audience: Designed for general practitioners.

Sponsor: The Upjohn Company; **Producer:** The Jam Handy Organisation, Detroit, Mich.; **Medical Adviser:** H. F. Hallman, M.D., Ph.D.

Distribution: For loan apply to the Upjohn Company, Kalamazoo, Mich., or to branch offices.

Book Reviews

Essentials of Medical Research

Wallace Marshall, M.D. Vantage Press, Inc., New York, 1953, 176 pp. $3.

Though Dr. Marshall was at one time associate professor of physiological chemistry at Spring Hill College, Mobile, Ala., and at another time instructor in physiological chemistry at the University of Alabama School of Medicine, he is now engaged in the general practice of medicine at Two Rivers, Wis., and still doing research.

In this concise little volume, Dr. Marshall attempts to tell the general practitioner of medicine how he may do investigative studies and medical research successfully quite apart from the complex facilities of the modern medical center. The book is well written, readable and practicable. It should be of real interest to many practitioners of medicine with interest in carrying on investigative work.

Individual and Community Health

William W. Stiles, M.D., M.P.H., associate professor of public health, University of California, Berkeley. The Blakiston Company, New York, 1953. Illustrated. 492 pp. with index. $6.

This is a completely new text written primarily for use in teaching courses in personal and community health in colleges and universities. It is a thoroughgoing presentation and though written from the point of view of a physician, it is arranged attractively, well illustrated and well designed for ready reference. If all our college students could be induced to orient themselves in the field of personal and community health to the extent of studying a text of this type, much would be accomplished in the way of preventing unnecessary illness and deferring premature death.

An Introduction to Public Health

Harry S. Mustard, M.D., executive director, State Charities Aid Association, N. Y., professor of public health practice, Columbia University. The Macmillan Company, New York, 1953. 315 pp. with index. $4.25.

In the third edition of this compact text designed to orient the student in the field of public health, Dr. Mustard has made a number of rather major changes in addition to bringing the whole text up to date. There is a new chapter on health education and one on mental health. There is less emphasis on the communicable diseases and more on the chronic diseases. Voluntary health agencies are discussed more fully and a discussion of international health organizations has been added.

As in previous editions, the author does not concern himself with the details of public health administration nor with offering suggestions for classroom or field instruction in many of the specialized phases of public health practice. It is a brief introduction to and orientation in public health.

The revision has been well done and the reader will find the present edition readable, concise and up to date.

Solitude and Privacy

Paul Halmos, Doctor Juris (Budapest), B.A., Ph.D. (London) Philosophical Library, New York, 1953. 181 pp. $4.75.

Aside from one chapter describing a research project concerned with neurotic personality trends and sociability, this book is concerned with a theoretical account of isolate behavior. The topics considered refer to the gregariousness of human nature, the contemporary societies, thwarting of sociability and the relationship and possible application of the doctrines of clinical group psychotherapy to group therapy in community organizations. Material from many fields such as English literature, history and psychoanalysis is included in the theoretical presentation. The research findings would be more conclusive if certain variables such as the economic status of the subjects had been controlled.

The Epidemiology of Health

Edited by **Iago Galdston,** M.D. New York Academy of Medicine. Health Education Council, New York, 1953. 197 pp. with index. $4.

A perspective of the historical background and a prospectus for the future in the field of medical care and education for health is presented by eminent and thoughtful leaders.

The first chapters define the meaning of the epidemiology of health and its evolution. Following this are descriptions of experiences in special fields which illustrate the approach in action; in the Army, in industry, in the fields of tuberculosis, mental hygiene, nutrition and geriatrics. Many will find the

last four chapters in the section, "Toward Action for the Future," most stimulating. Discussed are: physicians for the healthy, the functional approach to medical practice and education, the meaning of health in public health and behavior-centered health education.

Medical educators will appreciate the significance and the difficulties in performance of Ralph Gerard's statement, "We should like to give the doctor the ability to make wise, rational and analytic decisions beyond the level of just good craftsmanship." Research in the field of human behavior as it relates to health is deemed a fundamental necessity by Granville Larimore, who mentions the difficulty that has been encountered in getting funds for such research.

For the reader who believes in the increasing value of and need for broad biological literacy, stressed herein by Haven Emerson, this book is a rich source of information and thought. It is realized that responsibility for the public's health rests with the individual, but perhaps most heavily on the shoulders of the teacher of medicine.

Progress in Clinical Psychology, Vol 1, Sections 1 & 2

Edited by **Daniel Brower**, Ph.D., and **Lawrence E. Abt**, Ph.D. Grune & Stratton, New York, 1952. 564 pp. with index. Section 1, $5.75; section 2, $5.

The field of clinical psychology, particularly its development since the end of World War II, is the topic of these two books. The present plan of the editors is to publish similar volumes every two or three years to review this developing field systematically.

Following an introductory section which reviews the general systematic development of clinical psychology, the remaining 41 chapters are organized under the following headings: diagnostic and evaluative procedures; psychotherapy; developmental processes; applications of clinical psychology to special areas; approaches to clinical psychology; professional issues.

Chapters are separately authored and some variation is found in emphasis. Some chapters are primarily reviews of the literature while others stress theoretical or applied problems. However, this difference in treatment for the most part is appropriate to the particular subject matter.

These books and succeeding volumes should serve as annual reviews for the field of clinical psychology.

Therapeutics in Internal Medicine, 2nd edition

By 84 authorities. Edited by **Franklin A. Kyser**, M.D., F.A.C.P., assistant professor of medicine, Northwestern University Medical School. A Hoeber-Harper Book. 830 pp. with index. $15.

This book endeavors to cover the therapy of all diseases classified under the specialty of internal medicine. It is divided into eighteen chapters discussing diseases by organ systems except for the first chapter on Infectious Diseases, the second on Parasitic Diseases, the third on Metabolic Diseases, the fourth on Fluid and Electrolyte Balance and the eighteenth on Symptomatic Treatment. An appendix listing special dietotherapy and a complete index follow.

As with any comprehensive work on therapy it is only as good as the individual contributors, in this case eighty-four in number. It would appear for the most part that they have approached their individual sections with considerable restraint where overt controversies rage as to therapy. The treatments are up-to-date, yet conservative, especially in the handling of newer approaches. Certain treatments are mentioned as contraindicated. All doses are in the metric system and proprietary preparations are mentioned by name where they have common acceptance and hence clarify the treatment.

The printing is excellent and the text, despite the numerous authors, highly readable, containing a sense of continuity. Relatively few mistakes were found and these primarily in the succinct, well-chosen bibliographies following each section. This book is recommended as a thorough conservative approach to the therapy of internal medicine.

Phantasy in Childhood

Audrey Davison and **Judith Fay**. Philosophical Library, New York, 1953. 188 pp. $4.75.

The development through interaction with the environment of children's phantasy and the inter-relation of their phantasy and behavior are described from an almost exclusively psychoanalytic viewpoint. Thus, separate chapters are devoted to the subject matter during the oral, anal, genital and latency stages. The exposition consists largely of interpreting descriptions of various children's observed activity. Generalization of findings to the average child may be unwarranted since the subjects are

largely in disturbed groups such as the children of broken homes. Acceptance of many of the author's interpretations may depend on the reader's sympathy with psychoanalytic orientation.

Books and Pamphlets Received

(As space permits, those with the greatest interest to our readers will be reviewed)

The Physician in Atomic Defense

Thad P. Sears, M.D., F.A.C.P., associate clinical professor of medicine, University of Colorado School of Medicine. The Year Book Publishers, Inc., 1953. 308 pp. with index. Illustrated. $6.

Aviation Toxicology

Prepared under the direction of the Committee on Aviation Toxicology, Aero Medical Association. The Blakiston Company, New York, Toronto, 1953. 120 pp. with index. $4.

Drug Addiction Among Adolescents

Conferences sponsored by the Committee on Public Health Relations of the New York Academy of Medicine with the assistance of the Josiah Macy Jr. Foundation. The Blakiston Company, New York, Toronto, 1953. 320 pp. with index. $4.

Histology, 2nd edition

Arthur Worth Ham, M.D., professor of anatomy in charge of histology in the faculties of medicine and dentistry, University of Toronto. J. B. Lippincott Company, Philadelphia, London, Montreal, 1953. 756 pp. with index. Illustrated. $10.

Ballistocardiography

William Dock, B.S., M.D., F.A.C.P., professor of medicine, State University Medical Center at N.Y.C.; **Harry Mandelbaum,** M.D., F.A.C.P., lecturer, State University Medical Center at N.Y.C.; **Robert A. Mandelbaum,** B.A., M.D., assistant in medicine, Jewish Hospital of Brooklyn. The C. V. Mosby Company, St. Louis, 1953. With 153 illustrations. 293 pp. with index. $9.50.

Medicine, 2nd Edition

A. E. Clark-Kennedy, M.D., F.R.C.P., fellow of Corpus Christi College, Cambridge. Vol. 1, The Patient and His Disease. E. & S. Livingstone Ltd., Edinburgh and London, 1953. 410 pp. with index. $6.

Frazer's Manual of Embryology, 3rd edition

J. S. Baxter, M.A., M.Sc., M.D., F.R.C.S.I., professor of anatomy, University College, Cardiff. Bailliere, Tindall and Cox, London, 1953. American distributors: The Williams & Wilkins Co., Baltimore. Illustrated. 488 pp. with index. $8.

Basic Bacteriology

Carl Lamanna, Ph.D., associate professor of bacteriology in the Johns Hopkins University School of Hygiene and Public Health; **M. Frank Mallette,** Ph.D., associate professor of biochemistry in the Johns Hopkins University School of Hygiene and Public Health. The Williams & Wilkins Company, Baltimore, 1953. 677 pp. with index. $10.

The Autonomic Nervous System, 4th edition

Albert Kuntz, Ph.D., M.D., professor of anatomy, St. Louis University School of Medicine. 94 illustrations. Lea & Febiger, Philadelphia, 1953. Illustrated. 605 pp. with index. $10.

Surgical Forum

Proceedings of the 38th Clinical Congress of the American College of Surgeons. W. B. Saunders Company, Philadelphia, London, 1953. Illustrated. 716 pp. with index. $10.

Origins of American Scientists

A study made under the direction of a committee of the faculty of Wesleyan University by **R. H. Knapp** and **H. B. Goodrich.** The University of Chicago Press, Chicago, 1953. 450 pp. with index. $7.50.

The Younger American Scholar

Robert H. Knapp and **Joseph J. Greenbaum,** Wesleyan University. The University of Chicago Press, Chicago, 1953. 122 pp. with index. $3.

Cybernetics

Transactions of the 9th conference, March 20-21, 1952, New York. Edited by **Heinz von Foerster,** department of electrical engineering, University of Illinois. Sponsored by the Josiah Macy Jr. Foundation, New York, 1953. Illustrated. 184 pp. $4.

The Pluripotency of the Hypophyseal Hormones

Dr. Jules Samuels, director of the central institution for the Samuels-Therapy, Amsterdam. Ed. N. V. Cycloscoop, Amsterdam, 1953. Illustrated. 296 pp. with index. $9.74.

Rose and Carless' Manual of Surgery, 18th edition

Sir Cecil Wakeley, B.T., K.B.E., C.B., LL.D., D. Sc., F.R.C.S., F.R.S.E., F.R.S.A., F.A.C.S., F.R.A.C.S., senior surgeon, King's College Hospital, assisted by 18 contributors. The Williams & Wilkins Company, Baltimore, 1952. Over 1,000 illustrations. 1471 pp. with index. $12.

Fifth Annual Conference of Coordinators of Cancer Teaching

Held in Boston, September 26-27, 1952. Mimeographed. For information write Raymond F. Kaiser, M.D., chief, Cancer Control Branch, National Cancer Institute, Bethesda, Md. 56 pp.

Sandoz Atlas of Haematology

Sandoz Ltd., Basle, Switzerland. 1952. Profusely illustrated. Loose-leaf. 91 pp. with index. American office: Sandoz Pharmaceuticals, 68-72 Charlton St., New York 14.

Modern Concepts of Communicable Diseases

Morris Greenberg, M.D., M.S.P.H., assistant professor of epidemiology, Columbia University; **Anna V. Matz,** R.N., M.A., public health nursing consultant in communicable diseases, New York City Department of Health. F. P. Putnam's Sons, New York, 1953. 553 pp. with index. $6.20.

Abstracts and Excerpts

Bowen, Lois G., **Subsequent Careers of Applicants for Postdoctoral Medical Research Fellowships,** "The Journal of the American Medical Association." Vol. 152, No. 8:693-697, June 20, 1953.

A study of applicants for the Rockefeller Foundation - National Research Council medical research fellowships reveals a significant difference in the degree of later professional achievement reached by those accepted and those rejected. The study was limited to the 1,136 persons who applied for fellowships in the medical sciences during the 20-year period 1922 through 1941.

Criteria for evaluation included (1) inclusion in "American Men of Science," (2)listing by the Medical Sciences Information Exchange, (3) university positions, (4) private practice. Information was obtained chiefly through a questionnaire filled in by the persons studied.

Past fellows were found to have surpassed rejected candidates with respect to the indexes considered. The pattern for the field of medicine resembles that of the entire group with two exceptions —the difference between the proportion of fellows and rejected applicants holding full-time academic positions and the difference between the proportions of the two groups in full-time practice was less significant.

Three possible reasons advanced for the differences found in favor of the past fellows are: (1) the selection process has been effective, (2) opportunities provided by the fellowships have been valuable, (3) the prestige of holding the fellowship helped.

Turner, Edward L., **The Changing Panorama of Medical Care and Some of Its Implications in Medical Education,** "Northwest Medicine." Vol. 52, No. 4: 295-298; No. 5: 377-379. April and May, 1953.

The last 25 years have seen such a momentous change in basic medical knowledge that if the methods and technology of a quarter century ago were used by today's physician, he would be guilty of malpractice in the handling of many diseases.

Our advance in medical knowledge is far ahead of our medical service, which has shown itself to be increasingly deficient. The medical profession and medical education cannot be held primarily responsible for such problems. Population factors, social, economic, environmental elements all figure significantly in the distribution of medical facilities and personnel.

"Medical students, interns and residents all should be made fully aware of the necessity of close cooperation between all individuals and agencies concerned with health care. They must realize that problems of health care, hospitalization and other phases of public welfare are the business of every thinking citizen. Physicians, nurses, dentists, public health officials and the lay public must learn to place their problems frankly before each other and work together to solve them."

Weiskotten, H. G., **Experimentation in Medical Education,** "The Journal of the American Medical Association." Vol. 151, No. 17: 1486-1488, April 25, 1953.

First problems faced by the Council on Medical Education when it was established in 1904 were the large number of inferior medical schools and the need for university affiliations. Eliminating inferior schools required a rather rigid set of requirements at first. Basic science departments had to be organized, staffed with competent men and laboratories provided.

The fundamental principle that the best education is self-education was applied to the undergraduate medical course. It was found necessary to restructure the clinical department to embrace this policy. This led to the use of hospitals and outpatient clinics in teaching and the necessity of some school control. Individual schools developed their own approaches to the problems, gradually amending the rigid requirements as experience dictated.

New problems and new experimentation continue today as our medical schools adapt themselves to changing times. The present emphasis is on integrating the courses of the curriculum, and schools are in various stages of development. Improvement of medical education continues to depend on experimentation.

Emery, Walter B., **Educational Television —Progress Report,** "College Public Relations Quarterly." Vol. 4, No. 3:24-29, April 1953.

Real progress in plans for educational television stations has been made since the Federal Communications Commission made the reservations last year. Twenty-two applications for construction permits to build stations had been filed with the commission by April 1953.

A measure of the interest in educational television is shown by the number of communities and states which have been making plans and marshalling their resources to use the reserved channels. At least 30 states have held meetings or conferences to study financial, programming and engineering problems. In many states substantial sums of money have been spent on surveys. At least 16 governors and seven legislatures have taken definite steps to investigate the potentialities of educational television in their states. Numerous foundations have contributed funds.

On December 5, 1952, the Fund for Adult Education announced the formation of a National Educational Television and Radio Center to aid in the exchange, circulation and development of quality films and kinescopes to be used by stations throughout the country.

It is anticipated that there may be as many as 50 or more educational television stations in operation by the end of 1954, and possibly twice that many by the end of 1955.

Dodds, Gideon S.; Van Liere, Edward J., **Residents of West Virginia and the Study of Medicine,** "The West Virginia Medical Journal." Vol. XLIX, No. 5: 117-121, May 1953.

In 1951, the legislature of West Virginia enacted a bill creating a four-year school of medicine, dentistry and nursing. It was felt that creation of a four-year school would make it possible for more West Virginia students to gain entrance to medical school. Steady growth of population, the shortage of teachers, particularly in the basic medical sciences, and the financial aid of the G.I. bill have made entrance more competitive in the past few years.

A study of West Virginia applicants and a comparison with nationwide applicants reveals that the establishment of a four-year school will not solve all of the problems. West Virginia is found to be only slightly lower than the national average in number of applicants accepted. Admissions for residents of the state average 3.8 out of 12.3 applications per 100,000 population, compared with the national figure of 4.6 out of 13.9. During the past five years, West Virginia had 31 per cent of its applicants accepted compared with 34 per cent for the United States as a whole.

The new four-year school will help the state secure a replacement supply of physicians. The study of applicants indicates that a sufficient number of worthy applicants will be produced to justify the expansion of the school.

Bibliography

Sligh, Charles R. Jr., **Industry Support for Our Colleges—Moral and Financial,** "Association of American Colleges Bulletin." Vol. XXXIX, No. 2:317-328. May 1953.

Duling, G. Harold, **Approach to Foundations,** "Association of American Colleges Bulletin," Vol. XXXIX, No. 2:329-336, May 1953.

Price, Julian P., **The Physician's Responsibility to His Community,** "The Journal of the Kentucky State Medical Association," Vol. 51, No. 7:302-305, July 1953.

Stewart, Irvin, **A New Medical Education Program for West Virginia,** "The West Virginia Medical Journal," Vol. XLIX, No. 6: 149-152, June 1953.

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Faculty Vacancies

• The department of MICROBIOLOGY and IMMUNOLOGY of a medical school in the midwest is scheduled to move into new and enlarged quarters toward the end of 1953. The staff is to be increased by two full-time members. Those interested and experienced in teaching medical students are requested to give information concerning their personal history and qualifications and the desired rank and salary. Address: V-7.

• The departments of BIOLOGY, ANATOMY, BIOCHEMISTRY and PHARMACOLOGY have vacancies for four professors at the Royal College of Medicine in Baghdad. The salaries are open. For further information address requests directly to: Glenn S. Usher, M.D., chief, Health and Sanitation Division, TCA/Iraq, c/o American Embassy, Baghdad, Iraq.

• Applications are invited for positions of assistant or associate professor of MICROANATOMY and GROSS ANATOMY, duties to commence September 1, 1953. Further information may be obtained from Dr. R. L. deC. H. Saunders, anatomy department, Dalhousie University, Halifax, N. S., Can.

• Assistant resident in CLINICAL PATHOLOGY. Approved for entire training by College of American Pathologists; 1,000-bed teaching hospital; modern equipment; laboratory performs over 1,200 tests per day; research laboratories and facilities available; department has own teaching and research programs. Complete maintenance, including room, board, laundry and medical care, plus stipend of $900 per year. Contact director, department of clinical pathology and hospital laboratories, Medical College of Virginia, Richmond 19.

• Opportunity for professorships in departments of ANATOMY, PHYSIOLOGY, and PHARMACOLOGY in well established medical school. Must be mature and have experience in, or capacity for departmental administration. Salary commensurate with experience and ability. Address: V-9.

• PSYCHIATRIST: Desired for full-time position as university psychiatrist for student health services and as consultant to outpatient mental hygiene clinic and marriage counseling clinic. Prefer diplomate of American Board of Psychiatry or eligible, with training and experience in dynamic psychotherapy. Some teaching required. Salary open. Address: V-10.

• IMMUNOCHEMIST-IMMUNOLOGIST: Department of bacteriology, southern medical school, invites applications for position of instructor or assistant professor. Teaching 16 weeks; remainder of year for research. Include curriculum vitae and bibliography of publications in reply. Address: V-11.

Personnel Available

POSITION WANTED

PARASITOLOGIST: B.A.M.A., Ph. D., Zoology (Parasitology) major; biochemistry, minor; conducted important research during this 8 year academic period as research assistant; leading medical school; 6 months, research associate, parasitology, important medical research institution; past year, Director, section, parasitology, research division, leading pharmaceutical company; member, honorary and professional scientific and research societies; several publications; seeks academic research, teaching with professorial status; late twenties. Woodward Medical Bureau, 185 North Wabash, Chicago.

• SURGEON: Interested in teaching and research; Certified by the American Board of Surgery; Fellow, American College of Surgeons; two years teaching experience in clinical surgery; married; category 4 service U.S. Navy. Full-time work preferred. Address: A-32.

• SURGEON: 32, interested in career in academic surgery. Anticipates completion of American Board of Surgery certification March 1953; application accepted for fellowship in the American College of Surgeons for 1953. Currently holds staff appointment in department of surgery of a medical school. Wife and two children. Has training in basic research and anxious for opportunities in this direction. Full-time position preferred. Address: A-33.

• ANATOMIST: Ph.D., assistant professor, male, married. Four years teaching experience in medical school gross anatomy. Research and interest in neuroanatomy. Available August 1953. Address: A-34.

• ANATOMIST: Ph.D., man, 40. Desires teaching position in anatomy (gross or microscopic). Teaching experience in histology, embryology and gross anatomy in dental and medical schools. Publications. Excellent references. Now employed but may be available on short notice. Address: A-37.

• BACTERIOLOGIST; PARASITOLOGIST; PUBLIC HEALTH INSTRUCTOR: Ph.D., man. Desires teaching position in bacteriology, parasitology or preventive medicine. Teaching experience in

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these subjects in liberal arts and professional schools. Now employed but may be available on short notice. Publications. Excellent references. Address: A-38.

• INTERNIST: 35 years. Certified. Would like full-time teaching position, associate professor of medicine or higher in medical school where there is an opportunity for organized research. Interested in metabolism and isotope research. Has been connected with teaching university since getting out of service. Associate in medicine 1951. Numerous publications. Address: A-39.

• OPHTHALMOLOGIST: Age 33, married, priority 4, certified, advanced degree in ophthalmology. Engaged now in medical school teaching, research and private practice. Publications include article, monograph and review. Trained in major American institutions. Desires full-time opportunity to combine teaching, research and clinical work. Address: A-40.

• BIOCHEMIST: Ph.D., age 26, married. Four years' research on the biochemistry of human arterial smooth muscle, contraction and tonus mechanisms in relation to hypertension and arteriosclerosis. Desires opportunity to continue biochemical research on the arterial wall under cardiovascular investigator, with possibility of study toward M.D. degree. Available October 1953 or June 1954. Address: A-41.

• BIOCHEMIST: Man, 32, family, Protestant. B.S. chemistry; M.S., Ph.D., biochemistry. Minors: physiology, microbiology, organic chemistry. Societies. Publications; book in progress. 3 years experience undergraduate, 4 years graduate assistant, 1 year industrial chemist, 3 years army medical technologist. 1 year cancer research. Currently 2 years assistant professor biochemistry in medical school. Research interests: carbohydrates, nucleic acids, analytical biochemistry, clinical chemistry. Desires change for professional, financial advancement. Available 2-3 months after job agreement is concluded. Address: A-42.

• BIOCHEMIST or PHYSIOLOGIST: Ph.D., age 31. Active researcher and teacher at university medical school for five years. Fine scholastic record, public health senior research fellow, many publications. Interested in position allowing work for M.D. degree. Address: A-43.

• ANATOMIST: 32, married, children. National Cancer Institute fellow (1 year); experience in all branches of anatomy. Publications on request. Interested in research as well as teaching. Excellent references. Available after July 1, 1953. Address: A-44.

• BIOCHEMIST-PHYSIOLOGIST: Man, 30, married, Ph.D. Now assistant professor at medical college. Enthusiastic teacher with several years of research experience. Desires academic position at medical, dental or pharmacy school or liberal arts college where good teaching is considered important. Interested in graduate training program and fundamental research, if available. Administrative duties are very welcome. Publications. Location immaterial. Rank and salary open. Address: A-47.

• TEACHING FELLOWSHIP — OTOLARYNGOLOGY: special interest in problems of tumors in region of head and neck, particularly those related to cancer of mouth, larynx and pharynx. Man, single, 37. M.D. (surgeon) University of Cordoba. Head of clinic and assistant chief, department of otolaryngology, Hospital Espanol, Cordoba, 3 years; intern and resident, U.S., 1949-1951. Member scientific societies. Excellent references. Argentine citizen; good command of English. Address: A-49.

• TEACHING FELLOWSHIP — GYNECOLOGY: Man, 41, married. M.D., University of Cordoba. Supervision of gynecological patients 1939 to present, 2 years teaching in medical school and hospital. Member scientific societies. Publications. Argentine citizen; good command of English. Address: A-50.

• YOUNG SURGEON — Certified general and thoracic boards. University trained. Major interest thoracic and cardiac surgery. Experienced in applied cardio-pulmonary physiology. Some publications. References. Wishes full-time teaching appointment. Address: A-51.

• PHARMACOLOGIST—ADMINISTRATOR: Man, 31 married. Ph. D. Desires academic position, preferably with teaching duties. Four years industrial experience, and five years academic experience. Interest in toxicology and neuropharmacology, and graduate student training. Highest references, publications. Address: A-52.

• RADIOBIOLOGIST - HISTOLOGIST - ZOOLOGIST: Man, 40, married, Sc.D. Experience mainly in radiobiology and histology. Prefers position in research institution or teaching and research in histology or zoology department with radiobiological research opportunities, or research appointment in department of roentgenology or radiobiology. Address: A-53.

• PARASITOLOGIST: D.Sc., man. Internationally known—widely travelled. Guggenheim fellow. Effective teacher on undergraduate level in zoology, in medical school and post-graduate clinical level. Numerous research papers and monographs in taxonomy of parasites, surveys, chemotherapy and toxicology. Gets on well with colleagues. Desires position in fall. Salary secondary to time for research. Liberal arts college will be considered. Address: A-54.

• ADMINISTRATOR-EDUCATOR: Man, 38; B.S., M.A., Ed.D; fellow, national science-medical societies; 17 years experience administrator national public health-medical organizations; university professional school teaching; 8 years intensive experience medical school organization management including affiliation, curriculum, fellowship and research programs, fund raising, physical development, purchasing, student selection; author six books, numerous papers. Seeks top-level administrative post medical school, foundation, east. Address: A-55.

• Position desired in medical school or university hospital by woman with M.S. in BACTERIOLOGY. Three years experience teaching bacteriology, serology, parasitology and clinical microscopy to medical students and medical laboratory technicians. Excellent experience in writing and statistical interpretations in medical fields. Formerly in charge of university hospital bacteriology and serology department. Address: A-56.

• INTERNIST: 35. Certified. Desires full-time academic appointment with research. Currently assistant professor of medicine, director of basic research laboratory (biochemistry and physiology), supported by several grant foundations. Active in clinical teaching. Research and clinical experience at several leading institutions, including fellowship abroad. Priority IV. More than 40 publications. Address: A-57.

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school, department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Journal office, 185 N. Wabash Ave., Chicago 1, not later than the 10th of the month preceding publication.

• RADIOLOGIST: 37. Assistant professor. Male. Married. 4 years teaching experience. Available on short notice for full-time academic position. Address: A-58.

• BIOCHEMIST: Ph.D., 1953. M.S. Analytical chemistry. Desires academic and/or research position. Strong medical science background. Four years diversified teaching experience. Research experience in enzymes, trace metals and histochemistry. Age 32, family, veteran. Sigma Xi, publications. East preferred. Address: A-59.

• M.D., Ph.D.—40 years of age, married. Interested in teaching as associate professor or higher of PREVENTIVE MEDICINE and PUBLIC HEALTH in medical or public health school; prefer associated opportunities for field study in public health. 15 years experience include general public health administration, industrial hygiene, epidemiology, immunology, basic and applied research, and some undergraduate and postgraduate teaching. Publications. Excellent references. Northeastern states preferred. Available on short notice. Address: A-60.

• A position in PREVENTIVE MEDICINE and PUBLIC HEALTH with administrative responsibility desired. Age 45, married; two children. 13 years extensive experience in administrative medicine, including the teaching of public health and preventive medicine. Broad background in multiple areas of medical and hospital economics. References. Fellow, American Public Health Association; diplomate, American Board of Preventive Medicine and Public Health. Address: A-61

• CHIEF X-RAY TECHNICIAN: White, male, 45 years. 20 years experience, 12 as chief of busy 20-employee department. Capable of assuming complete supervisory responsibility, teaching and general administration duties. Location desired outside New York area. Address: A-62

• PHYSIOLOGIST: Ph.D. Man, 34. Desires research position. Special training in endocrinology, undergraduate major in veterinary medicine. Experiences in research. Address: A-63

• PATHOLOGIST: M.D. under 40, diplomate. Professor and chairman of department of pathology and chief of diagnostic services; distinguished academic career, varied experience, numerous publications; seeks post as full or associate professor with suitable responsibility and hospital laboratory directorship in progressive medical school. Available June 1954. Own department can be inspected by interested body. Reasons for change: overwork and poor financial return. Address: A-64

• BIOCHEMIST: Ph.D., 1952. Plasma protein fractionation, enzymes, blood coagulation, fibrinogen. Six publications on these topics. Electrophoresis. Five years laboratory teaching experience in medical and dental biochemistry food analysis, blood chemistry. Seeking teaching position with or without facilities for research. Address: A-65

• Active researcher: Member of many scientific organizations. Interest in fields of ENDOCRINE and CARDIOVASCULAR RESEARCH. Ten years research and six years teaching experience. Present position as associate professor in large medical school. Desires change of location. Numerous publications. Excellent recommendations. Minimum salary stipulated. Address: A-66.

• BACTERIOLOGIST: Ph.D. Man. Age 27, married. Veteran. Present rank assistant professor. Would like teaching-research position in medical bacteriology, immunology or bacterial physiology. Teaching experience in liberal arts and medical schools. Prefer location in the west or northwest. Publications. References. Available September 1. Address: A-67.

• BIOCHEMIST: Ph.D. Age 31. Married. B.S. chemistry, biology. Ph.D. biochemistry; minors: chemistry and microbiology. Publications. Three years graduate teaching assistant, two years post doctoral studies, biochemistry and nutrition. Research interests: vitamin and amino acid biochemistry. Desires teaching position in biochemistry with research opportunity or hospital laboratories with professional, financial advancement. Address: A-68.

• BIOCHEMIST: Ph.D. 36. Associate professor with eight years teaching experience in medical biochemistry and three years teaching in immunology. Active research worker with approximately 30 publications in immunochemistry, protein chemistry, enzymology, nutrition, clinical chemistry and analytical chemistry. Experience in teaching postgraduate medical biochemistry. Desires teaching and research position in a medical school or a full-time research appointment at a hospital or other medical research institution. Available at any time in the fall or winter of 1953. Address: A-69.

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